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THE NATIONAL GEOGRAPHIC MAGAZINE

Literary Landmarks of Massachusetts

By William H. Nicholas

With Illustrations by National Geographic Photographers B. Anthony Stewart and John E. Fletcher

When Franklin D. Roosevelt said in his First Inaugural Address, "The only thing we have to fear is fear itself," the famous pronouncement came as a thrilling new idea to millions of uneasy Americans.

Yet Henry David Thoreau, the Bay State philosopher, wrote in his *Journals* some 82 years earlier:

"Nothing is so much to be feared as fear." *

I was strolling along the shores of Walden Pond, outside Concord, where Thoreau dwelt in his hut in the woods and studied Nature, when this parallel of ideas reminded me of the signal contributions made by the writers and thinkers of 19th-century Massachusetts to the growth of America.

A Pennsylvania Dutchman, I was discovering for myself on a ramble across the State those literary landmarks which have been preserved for the benefit of all Americans.

Vacationers Throng Walden

To recapture the solitude of Walden today requires a visit in cold weather. For now the area is a State reservation. The bathing beach across the water from the site of the hut is thronged in summer by thousands of merrymakers. Picnickers roam through the woods. The sight-seeing buses from Boston often must by-pass Walden at the height of the season because the road is jammed with motorists.

But on a bleak March day I found I could walk unmolested by vacationers and visit the cairn which is Thoreau's principal memorial.†

Thoreau's admirers heaped the cairn. The "cornerstone" was laid in June, 1872, by Bronson Alcott, father of the author of *Little Women*, on the spot where he believed Thoreau's lonely habitation had stood. A Unitarian picnic was in progress near by, and some of the picnickers added stones of their own. Through the years the pile grew (page 307).

Thoreau built his house in the woods in 1845 and lived there from July of that year until September, 1847, making observations which later were chronicled in his delightful *Walden*, more widely read today than during the author's lifetime.

Thoreau published only two books during his lifetime, *Walden* and *A Week on the Concord and Merrimack Rivers*. His journals, manuscripts, and letters appeared after his death. Yet today his enthusiastic followers are found not only in the United States but abroad. They have virtually grown into a cult.

Thoreau had no desire to stray from his home town. "I have traveled a good deal in Concord," he said.

Bronson Alcott gave it as his belief that Thoreau thought he dwelt in the center of the universe and seriously contemplated annexing the rest of the planet to Concord.

Visitors can see the house on Virginia Road where Thoreau was born, and the one on Main Street where he died. During his Harvard days his family lived in what is now a section of the town's old Colonial Inn.

It was from this place that one of his aunts

* The thought was far from original, even with Thoreau. Saint Theresa of Avila, the profound Spanish mystic, wrote in the 16th century: "There is only one thing to fear and that is fear."

† See "Winter Rambles in Thoreau's Country," by Herbert W. Gleason, National Geographic Magazine, February, 1920.

From This Window Hawthorne's Tiny Daughter Una Saw Jack Frost's Magic

The Massachusetts novelist cut this inscription to record the event "while the trees were all glass chandeliers." He used his wife's diamond (opposite page). The windowpane is in the Old Manse, Concord landmark, where the Hawthornes lived for three years, and where he wrote *Mosses from an Old Manse*.

quietly slipped one night to pay Thoreau's taxes after that rugged individualist had gone to jail because he did not believe in paying taxes.

Emerson a Failure at Gardening

Concord, still the traditional New England community with grassy town square, steepled wooden churches, old houses, and tree-shaded streets, produced more than its share of 19th-century men of letters.

Ralph Waldo Emerson's home still stands on Lexington Road, with many of its original furnishings intact. I saw one of the poet-philosopher's hats hanging on a peg in the rear hall. He wore it on strolls into his orchard and garden.

Emerson enjoyed gardening, but he never became a successful tiller of the soil. Once his little son, watching him uncertainly wielding a spade, exclaimed fearfully, "Papa, I am afraid you will dig your leg!"

Finally he confined his efforts to pruning his orchard and picking up apples and pears. But his ultimate philosophical observation on gardening was succinct and clear.

"A scholar," said he, "should not dig."

Unlike Thoreau, Emerson traveled extensively, visiting England and the Continent, and later lecturing in many parts of the United States. In England he became closely acquainted with Coleridge, Carlyle, and Wordsworth, all of whom exerted a marked influence on his thinking.

As a young man he wrote his first book, *Nature*, while a guest in the home of his step-grandfather, the Reverend Dr. Ezra Ripley, at Concord's Old Manse. This book was none too successful, but within a decade Emerson had produced his *Essays*, which gained international recognition and established his lasting reputation.

The Old Manse, not far from the Old North Bridge where the minutemen fired the "shot

Quincy's First Parish Church Shelters the Graves of Two Presidents

John Adams, second President; Abigail Adams, his wife; and John Quincy Adams, his son and the sixth President, are buried in the crypt of the old church which was established in 1639. John Adams died on July 4, 1826, on the fiftieth anniversary of Independence Day. By strange coincidence, Thomas Jefferson died on the same day. Quincy is the ancestral home of this famous Massachusetts family (page 295).

heard round the world," did not bear its Scottish name in those days. It was so called by Nathaniel Hawthorne, who moved there from Salem with his bride in 1842, following the death of Dr. Ripley. Hawthorne was impressed by the fact that until his arrival only ministers had lived in the building. Here he wrote *Mosses from an Old Manse*.

I saw the clumsy writing chair in which both Hawthorne and Emerson sat while working. I walked through the small rooms and climbed the narrow stairway to the "saint's chamber," a tiny cubicle, rudely furnished, which was reserved for visiting ministers in the days before Hawthorne.

On small windowpanes of the study I saw inscriptions scratched by Hawthorne and his wife with her diamond (opposite page).

One reads:

Nath' Hawthorne
This is his study, 1843

And below it:

Inscribed by my husband at
Sunset Apr 3d 1843
In the gold light. S.A.H.
Man's accidents are God's purposes.
Sophia A. Hawthorne 1843

Hawthorne's Second Concord Home

Hawthorne remained at the Old Manse three years, then returned to Salem. But in 1852 he came back to Concord, buying the Wayside from the Alcott family and making that his home for the remainder of his life, except for a period he spent in Europe.

The Wayside, thus named by Hawthorne, attracts thousands of visitors each year. Built before the Revolution, it became the Alcott home in 1845, when Louisa May, author of *Little Women*, and the "Jo" of the book, was 13; Anna, or "Meg," was 14; Elizabeth, or "Beth," 10; and Abba May, or "Amy," was 5. The Alcotts called the house Hillside.

National Geographic Photographer Robert F. Sisson

Books Acquired Through Five Generations Line the Shelves of the Adams Library

The building was built in 1870 in Quincy, ancestral home of the Adams family, to house the collection. Henry Adams, seated at the table, is a great-great-grandson of John Adams, second President, whose portrait hangs above. The desk at left was used by John Quincy Adams, sixth President. The bust is of John Paul Jones.

Bronson Alcott, the impractical father, attracted Emerson and Thoreau with his advanced ideas, which were particularly sound in the field of education. The men became fast friends.

Prior to coming to Concord, Alcott's varied career had included teaching school in Bristol, Wolcott, and Cheshire, Connecticut; in Boston; and in Germantown, Pennsylvania, where his illustrious daughter was born. He had introduced organized play, gymnastics, the honor system, and juvenile libraries in his school.

He beautified his classrooms and tried to make study appear attractive. These innovations merely caused people to doubt his ability as a teacher.

Hillside was sturdy. The Alcott children romped up and down the stairs, and, on the flat roof which they called the Celestial City, enacted scenes from *Pilgrim's Progress*; they ran up and down the hill behind the house, and staged their little plays in the barn. Scores of the incidents in *Little Women* were taken from life at Hillside.

Two motion-picture versions of *Little Women* have brought these scenes to life for millions of movie-goers. Both films were made in Hollywood, one in 1933 and the other in 1949.

Hawthorne, in his introduction to *Tanglewood Tales*, described the summerhouse adjacent to Hillside as a charming spot. But a year after he moved in, he accepted the post of United States consul at Liverpool and took his family abroad with him, not to return for seven years.

When they came back, he enlarged the house and built a secluded tower study above the roof for himself. Visitors today can climb a narrow stairway to reach the tower and see the author's desk, but Hawthorne used only a ladder and trap door to gain entrance.

Where *Little Women* Was Written

The Alcotts later bought another home on Lexington Road known as Orchard House (page 305).

Here *Little Women* was written. Life in this house supplied many more incidents for the book. Here is the kitchen where the girls experimented with cookery while "Hannah" and "Mrs. March" took their holiday; the parlor where stands the old sofa under which the girls hid in a basket their Christmas presents for "Marmee"; the art studio of "Amy," whom her sisters called "Little Raphael"; and the sunny room of Louisa May, with its old corner beams and a huge beam across the center of the ceiling.

Intellectual capital of the continent in the 19th century, and indeed before that, was Boston. By 1850 it had become the most memorable center of intellectual activity in English-speaking America.

Daniel Neal, a traveler, noted that in 1719 New York had one bookshop; Virginia, Maryland, the Carolinas, and Barbados had none; while Boston had 30 book sellers clustered around Town House. They imported books and they printed them. So many manuscripts were submitted that some had to be sent to England to be printed.

A famous literary landmark today is the Boston Athenaeum, housed at 10½ Beacon Street (page 304).

Athenaeum Houses Rare Books

One of its treasures is the King's Chapel Library, oldest in New England, a collection of volumes sent to historic King's Chapel in 1698 by command of King William III. Another treasure, an oddity, is the memoirs of Walton, a highwayman, bound in his own skin.

Two-thirds of George Washington's library, which had been in the Bushrod Washington collection, then purchased by Henry Stevens and stored in New York, was later acquired by the Athenaeum. Other rare possessions are numerous first editions of Massachusetts writers.

The Athenaeum, established in 1807, remains to this day a private library, owned by shareholders.

Only a few persons have access to the library free of charge. These include members of the Massachusetts legislature, visiting scholars, and qualified students in search of material not obtainable elsewhere.

Old records identify not only early shareholders and students who made use of the Athenaeum, but also the books they read. For example:

Daniel Webster borrowed the works of Sophocles, the *Fables* of La Fontaine, a volume of parliamentary history, another of the history of Greece, Jared Spark's edition of the works of Franklin, and *Le Diable Boiteux* of Le Sage.

George Bancroft, naturally enough, read history, biography, and voyages of discovery. Francis Parkman, author of the classic, *The Oregon Trail*, read books of travel, adventure, and history, as did William Hickling Prescott, author of the famous works, *History of the Reign of Ferdinand and Isabella the Catholic*, *History of the Conquest of Mexico*, and *History of the Conquest of Peru*.

Emerson, Oliver Wendell Holmes, and William Ellery Channing, frequent users of the

Western Australia's *Police Gazette* Sought Poet John Boyle O'Reilly's Return

The romantic Irishman, deported by Britain to Australia as a political prisoner, escaped. The U. S. whaling bark *Gazelle* brought him to New Bedford in 1869. Seven years later the New Bedford chief of police received this copy of an official police bulletin, asking for O'Reilly's return. By coincidence, the chief had been an officer of the whaler when she had helped the refugee to freedom. The poet became one of the Hub's leading literary figures. Here an Irish policeman and the librarian of Boston College examine the old paper (page 286).

Athenaeum, covered a wide range of serious reading.

The venerable Athenaeum comes in for its share of ghost stories, most celebrated of which is Nathaniel Hawthorne's tale of seeing the ghost of the Reverend Dr. Thaddeus Mason Harris, in the main reading room, perusing the newspaper carrying the account of his death and funeral services.

Library Barred to Women

Not until March, 1829, did the trustees permit a woman to use the library. Miss Hannah Adams, the historian, was the first feminine student allowed within those precincts so sacred to men. As a precautionary measure, the librarian used to lock Miss Adams in the building at the noon hour when he wished to go out for lunch and she was too engrossed to leave her books.

Later Miss Elizabeth Peabody and Mrs. Lydia Maria Child, Boston intellectuals, were admitted. But when the library was moved into the Beacon Street building the whole subject was reopened. The trustees advocated more liberal treatment for women, but the librarian sternly protested.

He set forth that the narrow galleries and steep staircases were insuperable obstacles which should "cause a decent woman to shrink." "Nor is it desirable," he wrote, "that a modest young woman should have anything to do with the corrupter portions of the polite literature. A considerable portion of a general library should be to her a sealed book." He also added that such a concession to women "would occasion frequent embarrassment to modest men."

Anyone who visits the Athenaeum today and comes into contact with the alert, capable

Holy Cross Sets Aside a Room in Memory of a Distinguished Irish Poetess

Louise Imogen Guiney, daughter of a Civil War brigadier, was left without funds upon his death. She became postmistress of Auburndale, Boston suburb, and between sales of postage stamps and money orders wrote her vibrant verse (page 297). The Memorial Room contains her manuscripts, letters, and first editions. The dean of the College of the Holy Cross at Worcester shows the tea service which the men of General Guiney's regiment, the 9th Massachusetts Infantry, presented to her mother.

feminine assistants on duty there can be glad that the protest was overruled. I overheard one of them handle a situation most efficiently.

A college youth, barely out of his teens, approached the young woman, who was a few years his senior, and requested, somewhat superciliously, a short sketch of Joan of Arc in French. This was promptly supplied. Then he inquired, slightly condescending in tone, whether he could have a translation of the text.

The young woman, glancing at him primly, replied:

"I'm afraid not. We don't have many translations here at the Athenaeum. You see, it's not so many years ago that little maidens who never even heard of Radcliffe came in here and read manuscripts in the original Greek."

I found another literary treasure-trove in the huge Boston Public Library. Its Prince collection of 18th-century printing includes first editions of Cotton Mather's fulminations against witchcraft in Salem; works of Jonathan Edwards, Northampton's literary Congregationalist minister (page 299); and a first edition of the verses of Anne Bradstreet, of Andover, America's first significant feminine poet. Rarest item in the collection is a copy of the Bay Psalm Book, the first book printed in the English Colonies of America.

Here also are preserved the private libraries of John Adams and Nathaniel Bowditch, and a collection of Boston-born Benjamin Franklin's books and engravings.

The home of the writer of *The Battle Hymn of the Republic*, Julia Ward Howe, was at 13 Chestnut Street.

The words of the famous Civil War battle song were not written in Boston, however. In November, 1861, Mrs. Howe was visiting Washington. One afternoon she watched a

review of the Army of the Potomac. That evening she returned to her room at the Willard Hotel, where she went to sleep to the sound of marching feet on Pennsylvania Avenue.

She awoke at dawn, and, as she lay in bed, still listening to the marchers, the words to *The Battle Hymn of the Republic* came to her. She arose and scribbled the first draft. Later she sent the verse to the *Atlantic Monthly*, where the title was suggested.

A plaque in the lobby of the present Willard Hotel, on the site of the old one, reads:

"In honor of Julia Ward Howe, who wrote the 'Battle Hymn of the Republic' here at the old Willard Hotel November 21, 1861.

"'In the beauty of the lilies Christ was born across the sea
With a glory in his bosom that transfigures you and me.'"

Boston College's Library keeps alive the memory of the Hub's distinguished Irish poet, John Boyle O'Reilly, with a collection of O'Reilly manuscripts, letters, and papers.

This romantic young Irishman was sent from his native land to an Australian penal colony for participating in republican agitation. In 1869 he escaped and, with the aid of a New Bedford whaling captain, came to Boston.

In O'Reilly's personal scrapbook, at Boston College, is a copy of a Western Australia police journal of April 19, 1876 (page 284). Under the heading, "Absconders," it gives a description of the poet and details of his escape. The copy is addressed to "The officer in charge of Police Department, New Bedford, Massachusetts."

Through strange coincidence, by the time the paper reached New Bedford one of the mates on the whaling bark *Gazelle*, which rescued O'Reilly and helped him to freedom, had quit the sea and was the "officer in charge"—New Bedford's police chief, Henry C. Hathaway.

O'Reilly's verse soon established his literary reputation. For example, *A White Rose*:

The red rose whispers of passion,
And the white rose breathes of love;
Oh, the red rose is a falcon,
And the white rose is a dove.
But I send you a cream-white rosebud
With a flush on its petal tips;
For the love that is purest and sweetest
Has a kiss of desire on the lips.

The literary fame of Cambridge, seat of Harvard University, on the north bank of the Charles River adjacent to Boston, is universally known (page 309).

Half a century after the Revolution it had become the home of the literati.

Today memories of some of those brilliant figures are awakened in a stroll down Brattle Street, which parallels the Charles River.

At the corner of Story Street I came upon the stone which marks the spot where

Under a spreading chestnut-tree
The village smithy stands.

The smithy is gone now, and so is the little church attended by Longfellow's *Village Blacksmith*:

He goes on Sunday to the church
And sits among his boys;
He hears the parson pray and preach,
He hears his daughter's voice,
Singing in the village choir,
And it makes his heart rejoice.

Further down Brattle Street I came to the Craigie-Longfellow House, where young Longfellow obtained lodgings when he first came to Harvard to teach. When he later married Miss Frances Appleton of Boston, her father bought the house for them and, in all, Longfellow made it his home for 45 years.

Today his grandson, Henry Wadsworth Longfellow Dana, lives there and preserves the first floor much as the poet left it, particularly his study.

I saw the Hepplewhite armchair in which Longfellow sat to write at his old-fashioned folding desk. Here he penned *Hyperion*, *The Wreck of the Hesperus*, *The Psalm of Life*, which was translated into fifteen languages, and other early poems.

In one corner of the room is the standing desk where he occasionally wrote. There he could glance out the window across rolling meadows to the Charles River.

The Pause That Refreshed Longfellow

Longfellow was an industrious writer, working day and night, with few intervals for relaxation. But there was one important interruption to the work routine in that study, immortalized in *The Children's Hour*:

Between the dark and the daylight,
When the light is beginning to lower,
Comes a pause in the day's occupation
That is known as the Children's Hour.

. . . . . .

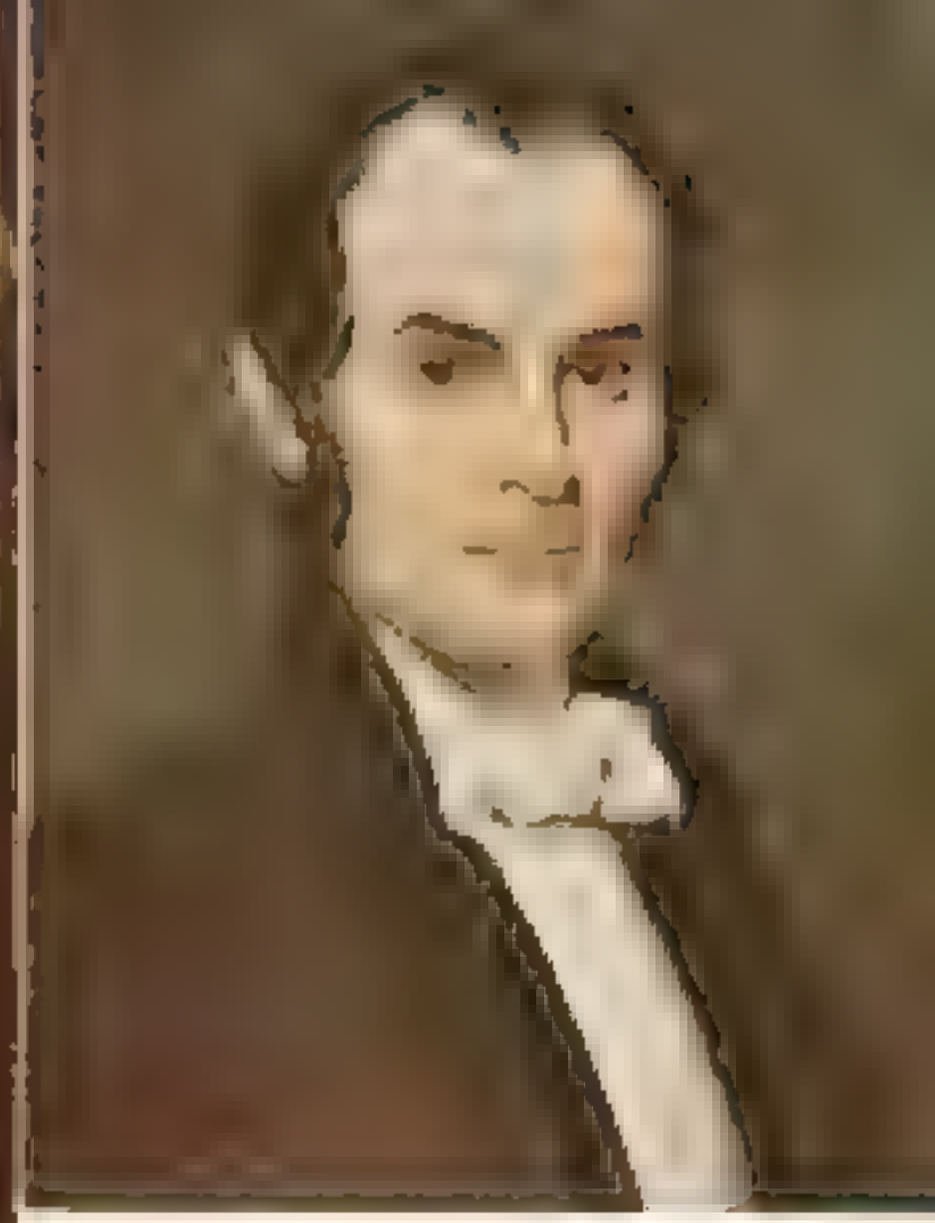
From my study I see in the lamplight,
Descending the broad hall stair,
Grave Alice, and laughing Allegra,
And Edith with golden hair.

"Grave Alice" lived in the Longfellow House until her death in 1928 (page 289). "Edith with golden hair" married Richard Henry Dana III, son of the author of the classic, *Two Years Before the Mast*. It is their son who now lives in Longfellow House. "Laughing Allegra" became the wife of Joseph

Kodachrome by B. A. Stewart and J. E. Fletcher

"Lives of Great Men All Remind Us We Can Make Our Lives Sublime"

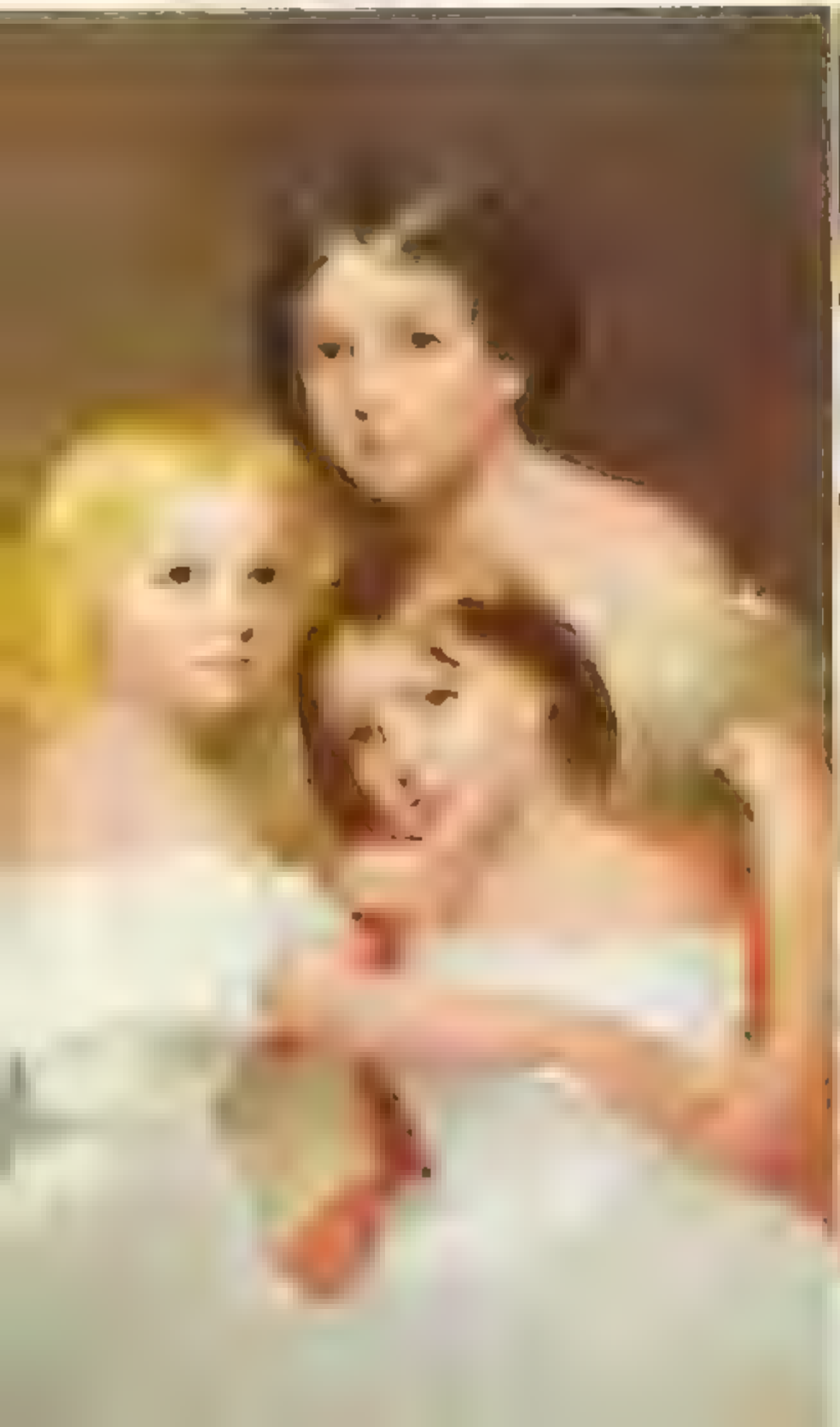
Henry Wadsworth Longfellow's bust in the garden of the Wayside Inn, South Sudbury, Massachusetts, seems to personify the poet's words in *A Psalm of Life*. The old tavern was the setting for his *Tales of a Wayside Inn*.



Nathaniel Describes "Gleamwinter Hearth" in Haverhill Farmhouse

Heroines of *The Cheerful Hour*

"Firelight . . . on the Old Spinet's Ivory Keys . . . Played Inaudible Melodies"



Sailors Still Put Their Trust in Nathaniel Bowditch's *American Practical Navigator*

[illegible] Mass. [illegible] Bowditch [illegible] Peabody Museum [illegible]

Concord Girls Learn to Like Music by Playing on Recorders

Amherst and Smith Plays Liven Hearing with Their Jazzier Tunes

Ambient Keeps the Study of Dramatist Clyde Fitch as a Memorial Room

Hawthorne's Portrait Issues as 'The House of the Seven Gables' He Made Historic

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

n Cambridge Rises a Memorial to the Founder of The Church of Christ, Scientist

Gilbert Thorp, whose sister married Ole Bull the famous Norwegian violinist.

To the right of the study fireplace is the armchair made out of wood from the "spreading chestnut-tree." The chair was presented to Longfellow by the children of Cambridge on his 72d birthday, February 27, 1879. In a drawer of the bookcase alongside is a leather-bound book which contains the names of the children who contributed their dimes to the making of the chair.

The Craigie-Longfellow House was historic before Longfellow's day. From July, 1775 through March, 1776, George Washington made it his headquarters as Commander in Chief of the Continental Army. Martha Washington came from Mount Vernon to join him, arriving in the family four-horse coach, attended by relatives, Negro drivers, and postillions in scarlet and white livery.

Elmwood, a yellow clapboarded mansion on Elmwood Avenue, now privately owned, was the birthplace and lifelong home of James Russell Lowell (page 308). His only prolonged absence from it was between 1877 and 1885 when he served as United States Minister to Spain and England. In this house he wrote *The Vision of Sir Launfal*, the first of *The Biglow Papers*, and other works familiar to every schoolboy.

The Nation chuckled over passages like these from Lowell's humorous verse:

> A reading machine, always wound up and going
> To memorize whatever was not worth the knowing.
> —*A Fable for Critics*

and

> To say what gods and men do or do
> For him, would be just nothing,
> Meliboeus to moan yes and sow to
> Comes naturally to woman.
> —*The Cenotaph*

Rare Manuscripts at Harvard

Harvard's beautiful Houghton Library, repository of the University's rare books and manuscripts, preserves the original works of many famous Massachusetts men of letters to remind us of their contribution to American thought (page 296).

Here are the principal collections of manuscripts, letters, and journals of Herman Melville, author of *Moby Dick*; Margaret Fuller; Thomas Wentworth Higginson, eminent soldier, biographer, and abolitionist; Thomas Bailey Aldrich, author of *Marjory Daw* and *The Story of a Bad Boy*; James Russell Lowell; and Lowell's distant cousin, Amy Lowell, Pulitzer Prize 20th-century poet.

Among personal mementos of James Russell Lowell in the library's keeping is his pipe and, appropriately enough, near by is one of the independent Amy's cigars, carefully kept in a wooden box.

Other Houghton Library treasures are papers of Julia Ward Howe and her family; the manuscript of Hawthorne's *The House of the Seven Gables*; manuscripts of William Cullen Bryant; Alcott family letters and papers; and many of Oliver Wendell Holmes's books and medical notes.

Climbing the Secret Staircase

A short distance southeast of Boston, along the coast, lies the town of Quincy, a swarming manufacturing center and the seat of the famous Adams family (page 282).

Here I visited the Adams Mansion, home of both John Adams and John Quincy Adams in their later years; the First Parish Church in whose crypt both ex-Presidents are buried (page 281); and the two houses in which they were born (page 306).

John Adams's chief literary work was his scholarly three-volume *Defense of the Constitutions of Government of the United States of America*. His son, John Quincy Adams, kept a famous diary which later was edited by *his* son, Charles Francis Adams, in the 12-volume work, *Memoirs of John Quincy Adams*.

Old Salem, northeast of Boston, a thriving port in the days of sail, keeps alive memories of important literary achievements.

Here Nathaniel Hawthorne was born. He was a descendant of the Judge John Hathorne of the witchcraft trials. Thus he is claimed by both Salem and Concord as one of their most distinguished citizens. He lived in several houses, most of which still stand.

But for visitors the subject of Hawthorne's *The House of the Seven Gables*, a weathered old building with a secret staircase, is the principal attraction (pages 293 and 296). With others I entered the house through Hepzibah's Penny Shop to the tinkle of a tiny bell and I climbed the stairs to Clifford's room, which looks out upon the sea.

It was in Salem that James T. Fields, the Boston publisher, called one day to see if Hawthorne had any material to submit.

Reluctantly pulling open a drawer, Hawthorne took out a manuscript which he handed to Fields with much diffidence. Fields took it back to Boston, began to read it, and sat up all night to finish it. The manuscript was *The Scarlet Letter*, Hawthorne's masterpiece.

Salem also was the home of another writer whose work is of extreme importance. He was Nathaniel Bowditch, the mathematician, who compiled *The American Practical Navigator* (page 290). The United States Hydro-

One Thousand Harvard Men Can Read at Once in the New Lamont Library

[illegible]

[illegible] Hampshire [illegible] John Greenleaf Whittier [illegible] Haverhill and lived here 20 years. [illegible] In Amesbury which he [illegible] and made his home [illegible] year.

Visiting the humble Haverhill home [illegible] which is the kitchen. [illegible] experience. Here the home [illegible] and all the surroundings [illegible] *Bound* [illegible]

[illegible] are [illegible] Uncle Moses' big watch, [illegible] the identical nail where [illegible]

[illegible] of the present barn was built [illegible] Uncle Moses in 1821. It was to [illegible] through the [illegible] after the [illegible]

[illegible]

At the Amesbury home Whittier [illegible] It remains [illegible] of the [illegible] to keep in [illegible]

by every member of the United States Senate and House of Representatives; the members of the United States Supreme Court; the governor and living ex-governors of Massachusetts; the members of the Massachusetts Supreme Court; and many other distinguished citizens.

Returning to Boston from Haverhill, I stopped at North Andover to see the home of Anne Dudley Bradstreet, the colonial poet. She was the wife of Governor Simon Bradstreet. She came to America in 1630 in the *Arbella* when she was 18. The present Bradstreet House, with its central chimney and lean-to roof, was built in 1667.

Although Anne Bradstreet had a large family and many duties to perform, she found time for wide reading and for writing poetry. The first edition of her verse, printed in London in 1650, bore the following title:

The Tenth Muse Lately Sprung Up in America. Or Several Poems, Compiled with Great Variety of Wit and Learning . . . By a Gentlewoman in Those Parts.

Journeying on into Andover, I saw there the stone Stowe House, built in 1828, which became the home a quarter-century later of Harriet Beecher Stowe, author of *Uncle Tom's Cabin*, one of the most influential books ever published in America. Her grave is in near by Chapel Cemetery.

Going out Main Street, I passed the American House, where Samuel Francis Smith, when he was 24 years old, wrote the words of *America*:

> My country, 'tis of thee,
> Sweet land of liberty,
> Of thee I sing:
> Land where my fathers died,
> Land of the pilgrims' pride,
> From every mountain side
> Let Freedom ring.

America's Pioneer Woman Editor

The most famous children's poem in the English language, *Mary Had a Little Lamb*, is part of our New England heritage.

Mrs. Sarah Josepha Hale published it in a little volume of her verse, *Poems for Our Children*, in 1830, and, in the same year, republished it in a monthly magazine, *Juvenile Miscellany*.

Mrs. Hale was born in 1788 on a farm in New Hampshire. At 34 she found herself a penniless widow with five children to support. She embarked upon a literary career, moving to Boston in 1828. Thirteen years later she was induced to move to Philadelphia, after the publisher of *Godey's Lady's Book* in that city had purchased a Boston magazine for women of which she was the editor, for the sole purpose of acquiring Mrs. Hale's services.

This progressive woman, who sponsored many noteworthy projects during her long and useful life, succeeded while in Boston in raising the funds to complete the building of the Bunker Hill Monument. Efforts on the part of men to perform the task had failed dismally for many years.

For the more than forty years that Mrs. Hale directed *Godey's Lady's Book*, the most widely circulated magazine of her time, she pioneered for education for girls equal to that of boys; for physical training for her sex; for women teachers in schools; for women physicians and nurses; for women medical missionaries; and for many other social changes now the custom of the land, but then commonly thought improper.*

Holy Cross Honors a Feminine Poet

On the outskirts of Worcester, at the College of the Holy Cross, I saw a memorial to a distinguished feminine poet of the late 19th and early 20th centuries, Louise Imogen Guiney. This brilliant daughter of Brig. Gen. Patrick R. Guiney, an Irish-American hero of the Civil War, wrote verse recognized by discerning critics as of lasting worth. The best is collected in her volume, *Happy Ending*, published in 1909.

Her father, hopelessly wounded in the Civil War, was walking in Boston one March day in 1877 when he suddenly knelt on the pavement, silently crossed himself, and died. Miss Guiney had not yet been graduated from school. Always hampered by lack of funds, she finally, in 1894, accepted the postmastership at Auburndale, a suburb of Boston, and wrote essays and verse between sales of stamps and money orders. She was a familiar figure as she strolled the streets of Auburndale, accompanied by her pet Newfoundland dogs.

Miss Guiney's chief interest lay in the study of the works of the English Cavalier poets. By 1901, after she had made two trips to England, she resolved to live there and made her home in Oxford.

Her memorial at Holy Cross, the strikingly paneled Louise Imogen Guiney Memorial Room, houses her manuscripts, many of her letters, and first editions of her works, along with a first edition of her biography of Robert Emmett. In a corner stands a silver tea service presented to her mother in 1863 by the men of the 9th Massachusetts Infantry, which her father commanded in battle (page 285).

Incidentally, it was at a Holy Cross alumni dinner in 1910 that John Collins Bossidy

* Consult *The Lady of Godey's, Sarah Josepha Hale*, by Ruth E. Finley, J. B. Lippincott Co., 1931.

The Secret Staircase in the House of the Seven Gables

It winds around a big chimney in the weathered 17th-century building in Salem. When Nathaniel Hawthorne wrote his celebrated novel, only its resident knew of this stairs. Susan Ingersoll, spinster cousin of Hawthorne, [illegible]

[illegible] Salem.

[illegible]

[illegible] principal street [illegible]

Bancroft's *History of the United States*, the [illegible] volume of which appeared in 1834 and [illegible] years later, was the most [illegible] to that date. Bancroft also [illegible] Secretary of the Navy, Minister [illegible] and Minister to Germany.

The handsome building of the American Antiquarian Society contains the most complete collection of early American newspapers, almanacs, and American imprints before 1821. More than [illegible] miles of shelves are required to hold the library's more than a million titles.

Amherst Rich in Literary Lore

Traveling [illegible] I stopped at [illegible] another old Massachusetts [illegible] but proud of [illegible] worthy [illegible] tion of eminent literary figures.

Introspective, timid, brilliant Emily Dickinson is Amherst's [illegible] citizen in the field of literature. The [illegible] brick mansion [illegible] she lived apart from the world [illegible] stunded [illegible] though it is not open to the public [illegible]

Emily Dickinson's [illegible] of verse was not published during her lifetime, except for two poems [illegible] without her [illegible] She wrote her verses [illegible] ribbon in little packets. [illegible] away in [illegible] drawers. After her death [illegible] Lawrence, brought them to light to delight the world.

Her verses amazingly never were revised by the author [illegible] publication. [illegible] punctuation [illegible] were eccentric. In [illegible] something in her heart [illegible] thoughts [illegible] feelings in an original way. Her ideas, her style, her idiom, were all her own.

Emily Dickinson's father, a stern New Englander, was the treasurer of Amherst College. A lawyer, he once served a term in Congress. For several weeks in the spring of 1854, when Emily was 24, she and her mother [illegible]

Steel Walls Guard Boston Public Library Treasures

Some rare volumes contain works of Anne Bradstreet [illegible]

[illegible] Amherst.

[illegible] withdrew from [illegible] Amherst only two years [illegible] for medical attention.

Family [illegible] affair was the [illegible]

[illegible] Amherst [illegible] in the [illegible] imitated [illegible] Dickinson [illegible] Poe ex-

[illegible]

[illegible] Amherst has [illegible] plays as *The Mob*, *The Pioneer*, *Cotton Tom*, *The Hour Glass*, *Nature Hath*, and *Lucifer's Footman*. Famous actors and actresses who played parts in him included Mme. Modjeska, Nat Goodwin, Julia Marlowe, Otis Skinner, Maude Adams, and Ethel Barrymore.

[illegible] Amherst [illegible] Tech Memorial Room in Amherst College. Convent Library [illegible] fireplace [illegible] his death. Most of the [illegible] in Paris.

Fitch's rooms always were artistically furnished and decorated. He was responsible for much of the interior decoration of the old Chi Psi lodge.

Noah Webster America's First Lexicographer

Noah Webster, versatile genius and author of the dictionary that bears his name, lived in Amherst during many of the years he was compiling his dictionary.

Even before Webster compiled his dictionary, he had produced one of the most useful and influential volumes ever printed in English. This was his Blue-Back Speller, which he published at Hartford in 1783, when a youth of 24.

Webster taught school after his graduation from Yale. He read law and was admitted to the bar but practiced only four years. In the new United States, impoverished by the Revolution, teachers were few and school textbooks inadequate. He saw the need for a book which would enable a bright youth or illiterate adult to learn by his own efforts to read and write without the help of a teacher.

His Speller, a combined primer, speller, and reader, met that need. With the Bible and an almanac, it made up almost the entire library of many a settler's home, and taught the youth of America how to spell, to read, and to pronounce. It was in use for more than a century (the name was changed twice) and more than 19 million copies were sold before his death and another 61 million copies after.

Two years after his Speller appeared, Webster published a pamphlet, *Sketches of American Policy*, in which he advocated a system of government whereby the people and Congress could act without constant intervention of the States. This was probably the first definite proposal and argument for a Federal Constitution.

Though not a delegate, he was one of the most energetic proponents of the Constitutional Convention of 1787, and closely followed its sessions in Philadelphia. He was only 29 years old then, but General Washington and Benjamin Franklin paid him the honor of calling upon him at his lodgings.

Unscrupulous publishers often pirated the Speller, reprinting it locally and selling it in large quantities without giving its author a cent. This led Webster to devise and advocate the Federal copyright Law which the Congress enacted in 1790 to protect the rights of authors.

Compilation of the Speller led Webster into a profound study of the American language.

He found that American settlers had given new meanings to old words and invented hundreds of lusty new words—*bluffer, chowder, scow, skunk, applesauce, bullfrog*, etc.—which were not included in the best English dictionary then available—Dr. Samuel Johnson's *Dictionary of the English Language*.

Webster also found much to object to in the 18th-century vocabulary that Dr. Johnson did include.

Webster determined to produce a new dictionary, incorporating all the new American words.

Webster's first little book, *A Compendious Dictionary of the English Language*, appeared in 1806. In it he recorded 5,000 words not included in previous similar dictionaries. Boston greeted it coolly, and objected to the author's listing of colloquial words on the ground that there were too many words in the language already.

But Webster persevered. His royalty from the Speller was only half a cent a copy, but it was enough to support him and his family. One son and six daughters for the 20 years he now devoted entirely to collecting new American and English words and new meanings for old words. By 1825 he had completed his two-volume work, *An American Dictionary of the English Language*.

This was a prodigious task for one man. Webster not only compiled, but wrote out in his own hand the entire manuscript, comprising 70,000 listings, a preface of textbook size, and much supplementary material. In his researches he spent a year in England and Paris, and made a synopsis of words in 20 languages.

The new Webster had 12,000 more entries than the then current edition of Dr. Johnson's work. Its first English edition numbered 3,000 copies, 500 more than the first American edition. British courts began to cite Webster on points not covered by Dr. Johnson.

No doubt the value of Webster's achievement to America simply cannot be calculated. Webster supplied a vital need and, in doing so, placed himself in the forefront of scholars of the English-speaking world.

Shortly after Webster's death in 1843, George and Charles Merriam, of Springfield, acquired all rights to his dictionary. Immediately they started the continuous and famous Merriam-Webster series of dictionaries "on the foundation and in the tradition of Webster."

Since Webster's time a phenomenal growth of our vocabulary has taken place. For example, the current *Merriam-Webster New International Dictionary, Second Edition*, has

In Congress's Square Rises This Memorial to the Reverend Peter Bulkeley, a Town Founder

[illegible] from attack by the Indians during King Philip's War. A chief declared: "We be ancient, if we were Concord. The Great Spirit love that people. They have a great man there—he great pray." The late Prof. Edwin A. Grosvenor of Amherst College, a descendant of Peter Bulkeley, is seated beside the [illegible]

[illegible] entries—eight times the entries of [illegible] Webster. No [illegible] book in the English language can [illegible] other language [illegible] so rich in information."

Grosvenor House, Amherst Landmark

A prominent Amherst campus landmark is Grosvenor House, the home of [illegible] Edwin Augustus Grosvenor, [illegible] the Lowell of the Northern Connecticut Valley.

The Reverend Peter A. Grosvenor was [illegible] Amherst [illegible] Congregational [illegible] Institute for [illegible] years. He spoke [illegible] Greek, French, and Turkish. He translated and published a Greek [illegible] Jackson, and Victor Duruy's histories from the [illegible]. He wrote *Christianity in Modern Life*, *The Lowly*, and many articles for the National [illegible].

Dr. Grosvenor was [illegible] [illegible] Mount Holyoke [illegible] Amherst College. A [illegible] of New Westport, [illegible] South [illegible] presented [illegible] Yale [illegible] [illegible] Rutgers [illegible] Williams [illegible] Stephen [illegible] of South Carolina and Thomas [illegible] [illegible] [illegible] Mount [illegible] Southern [illegible] Mount [illegible] who [illegible] Mount [illegible] with [illegible]

1865, about one year after this modern method had been developed by Max Levy, Dr. Grosvenor published 230 photographs in his 18-volume *Constantinople*. This literary masterpiece is still the standard work on the 2,500-year-old city.

When Dr. Grosvenor came to Amherst he brought with him a keen knowledge of Europe and Asia Minor, gained through extensive travels. He was familiar with the fields of Troy, the localities associated with Joan of Arc, the terrain of Napoleon's campaigns of 1796 and 1814. He also had followed much of the routes of Alexander the Great and of the Retreat of the Ten Thousand as described by Xenophon. He had visited all the places mentioned in St. Paul's journeys.

When one of his students came to him in mid-term and said he had an opportunity to [illegible] his classes so abruptly, Dr. Grosvenor urged him to go.

"You will learn much more history that way," he told the young man, "than I can teach you in a classroom."

Today Grosvenor House contains faculty offices. On the walls of the reception hall hang framed letters written to Dr. Grosvenor by Grover Cleveland, William Howard Taft, Woodrow Wilson, Calvin Coolidge, General Lew Wallace, Florence Nightingale, Alexander Graham Bell, and other notable personages.

Bryant of the Berkshires

Two of America's most distinguished men of letters are closely identified with the Berkshires of western Massachusetts, although in that locale the one began his career and the other virtually brought his to a close.

William Cullen Bryant was born in Cummington in 1794. A precocious child, he had mastered Greek and Latin with ease by the time he was 13. Encouraged by his father, he tried his hand at verse at an early age.

When Bryant was 17 he wrote *Thanatopsis*, the masterly Puritan dirge which was to make him famous. A few years later, on a bleak December day, he was walking from Cummington to Plainfield, a village four miles distant, when he observed a solitary bird winging along the horizon. The sight inspired *To a Waterfowl*.

Both poems he tucked away in a desk drawer, from which his father extracted them some years later. He took them to Boston, where the editors of the *North American Review* read them with measured enthusiasm. Richard Henry Dana could not believe at first that *Thanatopsis* had been written by anyone of that day in America.

Generations of schoolboys and girls have memorized the lingering first stanza:

> So live, that when thy summons comes to join
> The innumerable caravan, which moves
> To that mysterious realm, where each shall take
> His chamber in the silent halls of death,
> Thou go not, like the quarry-slave at night
> Scourged to his dungeon, but, sustained and soothed
> By an unfaltering trust, approach thy grave
> Like one who wraps the drapery of his couch
> About him, and lies down to pleasant dreams.

By 1825 Bryant had emerged as America's one great poet. In that year he went to New York, and his long and brilliant career thereafter was beyond the confines of the rugged Berkshires.

But the old Bryant homestead in Cummington still stands, and thousands of summer vacationists visit it.

Herman Melville was born in New York City, two years after Bryant's *Thanatopsis* was first published. He did not make his home with his family at Arrowhead in the Berkshire town of Pittsfield until 1850.

In the interval he had gone to sea, including his voyage on the whaler *Acushnet*; had experienced his adventures in the Marquesas which he described in *Typee*; and had received wide recognition for that volume of South Sea adventure and for *Omoo*, *Mardi*, and *White-Jacket* which followed.

In Pittsfield he formed a new friendship with Nathaniel Hawthorne, who was spending the summer at near-by Lenox and writing his *The House of the Seven Gables*. In 1851 Melville finished and published *Moby Dick*, the story of the white killer whale, and dedicated it to his friend.

But *Moby Dick*, now acclaimed as one of the world's literary masterpieces, was a complete practical failure, misunderstood by the critics and ignored by the public. Melville passed slowly into an eclipse. After thirteen years in the Berkshires he moved back to New York City and died in comparative literary [illegible].

Not until the 1920s was Melville's genius recognized. Then came the great Melville "rediscovery," which has put him in the first rank of American writers and brought him recognition [illegible] for summer visitors.

Turning from Pittsfield with my thoughts on Melville, I wondered what new "rediscovery" of literary genius the future holds for Massachusetts.

For additional articles on Massachusetts and Boston see "National Geographic Magazine Cumulative Index 1899-1949."

Sabrina Sits Aloof as Dr. George F. Whicher Inspects an Early Dickinson Letter

[illegible]

Smith College Girls Look at a Prized Portrait of Ralph Waldo Emerson

[illegible]

Boston's Athenaeum Once Barred Women, Deemed Tickets to "Embarrass Modest Men

▲ Four Modern "Little Women" Stand in the Yard of the Alcott Homestead

Hosts at Orchard House, Louisa May Alcott's former home in Concord, Massachusetts, are [illegible] descendants of the famous author. Left to right: Jonathan Lathrop Sewall, [illegible]

▼ Louisa May Alcott's Great-Grandniece Sits at the Famous Author's Desk

In Louisa Tuttle's room at Orchard House, Mrs. Alcott [illegible] Mrs. Alcott's [illegible] Alice Mrs. Alcott's [illegible]

Curious Visitors Explore the Secret Passageway in John Adams' Birthplace

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Year by Year, Admirers Add to Thoreau's Rock Cairn Close by Walden Pond

"I Never Saw a Moor, I Never Saw the Sea," Wrote Recluse Emily Dickinson

[illegible]

Flowers of Massachusetts Grace the James Russell Lowell Estate

[illegible]

"Fair Harvard, Thy Sons to Thy Jubilee Throng"—Harvard *Hasty Pudding*

"Listen, My Children, and You Shall Hear of the Midnight Ride of Paul Revere"

Elements of Greek Antiquity Mingle with Those of Colonial Americana. Mr. [illegible] Has Compiled Its Pictures Into a Book Of Which Only 1,000 Copies Are Being Printed. Page [illegible]

60,000 Pictures in Webster's Dictionary Answer Her Questions

[illegible]

Britain Tackles the East African Bush

By W. Robert Moore

With Illustrations from Photographs by the Author

AT KONGWA, in the interior of Tanganyika, where the British cleared land to plant peanuts I saw ocher-smeared Wagogo tribesmen leaning on their spears as snorting bulldozers ripped away acres of tangled thornbush.

Only tools these primitive herdsmen had ever used were the mattock and planting stick. Many had never seen a wheeled vehicle until the British brought in tractors, giant root cutters, and disk plows (page 332).

At Jinja, at the outlet of Lake Victoria, I talked with engineers building a dam across the Nile. A huge project this, to furnish hydroelectric power for Uganda and make a vast reservoir for Egyptian irrigation (p. 327).*

Hippos Graze on Golf Course

Not far away, tribal drummers beat ancient tom-toms throughout a three-day installation ceremony for a local chieftain.

Here at Jinja, too, huglike hippos waddle out of the lake and roam through gardens in town. One night we saw six munching grass on the golf course fairways.

In wet weather these two-to-three-ton beasts punch holes in the course. Should your ball land in a hippo footprint, club rules allow you to lift it out without penalty.

In afternoons after office work ends in Nairobi, capital of Kenya Colony, many persons hop in their cars and ride out to watch wild game feed.

Big herds of zebras, giraffes, wildebeests, gazelles, and other animals wander on the open plains of Nairobi National Park, just outside town.

Some people even take along their afternoon tea and picnic in their cars while they wait for the lions to come out of the wooded ravines at sundown.

It is not surprising that East Africa should afford such striking contrasts. European influence here is still young.

Although early 16th-century Portuguese traders, following Vasco da Gama's pioneer route around the Cape, built forts at Mombasa and other coast towns, they did not penetrate into the interior.

Until a century ago no European had seen lofty Kilimanjaro, highest peak on the African Continent, or Mount Kenya. Yet Kilimanjaro's 19,565-foot ice-and-volcanic cone stands only 175 miles from the coast. When the German missionaries Johannes Rebmann and Johann Ludwig Krapf returned from short trips inland from Mombasa and first reported snow-capped equatorial mountains, no one would believe them (pages 328-9).

The age-old mystery "Where is the source of the Nile?" was solved definitely in 1862 when the explorer John Hanning Speke found that its head reservoir was Lake Victoria (page 327).

Nine years later (1871) Stanley met Livingstone at Ujiji, on the shore of Lake Tanganyika.

Not until the 1890's did Great Britain establish protectorates over the Uganda and Kenya territories. At that same time Germany was asserting its dominance over Tanganyika (then German East Africa), which after World War I became a British mandate now a Trust territory.

Kenya Capital Only 50 Years Old

Fifty years ago Nairobi was only a railway encampment in no man's land between cattle-raiding Masai and Kikuyu tribes.

The railway then being built between Mombasa and Lake Victoria was projected as a highroad to Uganda. Except for its narrow coastal belt, Kenya was considered of little worth. Survey engineers roaming the highlands, however, found large areas of rich almost empty land with a climate suitable to European cultivation.

Look at those lands now: farms growing wheat and other grains, pyrethrum flowers, sisal; tea and coffee plantations and large wattle groves; and pastures for dairy herds, beef cattle, and sheep.

Flying to Nairobi, we sped over these rolling fertile highlands. Our route, too, crossed that mighty earth furrow, the Great Rift Valley, which slices north and south across East Africa. Lakes lie capped on its floor and hills pile up on the edges of its [illegible].

Below us as we flew were also round grass-thatched huts, circular corrals for cattle and goats, and garden patches of bananas and corn of native tillers.

A half hour before we reached Nairobi the pilot dipped the plane to signal our crossing

* Place names in this article are located on the map supplement, "Atlas," with this issue of the [illegible]

Fifty Years Ago, Nairobi, Capital of Kenya Colony, Was Only a Railway Camp

[illegible]

[illegible]

Africa Attracts British Migrants

[illegible]

[illegible]

Though the Equator Passes over Its Shoulder, Mount Kenya's Head Is Crowned with Ice

[illegible]

[illegible] to find it.

Nairobi Now a Boom City

Some of the settlers are disappointed ones [illegible]. But of the hundreds who arrive [illegible]

[illegible] British India [illegible] work or private business.

To [illegible] Nairobi [illegible]. Hotels [illegible] shortage is [illegible].

[illegible]

[illegible] When they [illegible]

[illegible] package [illegible].

[illegible]

Posts and Telegraphs Department. "This [illegible]

In addition, I learned, too, that all post offices sell atabrine pills for malaria as well as postage stamps.

By far the majority of persons coming out to East Africa are settling in Kenya. It is a Crown Colony. Here sizable sections of the country are set apart for European development, and private enterprise has a wide range.

Britain's role in the Protectorate of Uganda is that of a guiding hand until such time as native government reaches maturity. Consequently, most of the British who are located here are connected with government.

The status of Tanganyika is still different, for it is a Trust territory. Europeans thus are allowed to hold land only on limited lease.

Progress in Tanganyika

Progress and new projects now under way hop individual boundaries and spread over the entire region. To coordinate these many activities, an East Africa High Commission and Central Legislative Assembly, seated in Nairobi, began functioning January 1, 1948. Its job is both administrative and legislative in interterritorial affairs.

To the common currency and posts and telegraphs system shared by the three territories in previous years now have been added customs, communications, agricultural and medical research, and other interlocking facilities.

The administration of railways and harbors of Tanganyika has now been tied to those of Kenya and Uganda.

At the moment this newly consolidated East African Railways and Harbours Administration is realigning part of the route in the Kenya highlands to iron out some of the sharp kinks and steep gradients on the sides of the Great Rift Valley escarpment. It is also converting wood-burning engines to oil.

In Tanganyika the harbor of Dar es Salaam is being expanded. A new port is being constructed at Mikindani in the south, and miles of new railway are being laid into the interior to afford access to a planned 1,650,000-acre development in the Big Groundnut (peanut) Scheme for British East Africa (page 344).

Airways have almost literally whisked East African peoples off their feet since the war, for they now probe areas where until recently a person could go only by long safari on foot. An air map of the services operated by East African Airways Corporation looks like a huge spider web hung over Kenya, Uganda, Tanganyika, and the islands of Zanzibar.

A dozen international services, run by eight different nations, maintain scheduled routes through East Africa.

Planes belonging to nearly 30 licensed charter companies, more than half of which are locally based, also wing in and out of the airports (page 343).

"There is even a 'Pilgrim Route' flying out of Dar es Salaam, Zanzibar and Mombasa at certain seasons of the year to carry ardent East African Moslems on pilgrimage to Mecca."*

Science Fights Tsetse Flies

Today doctors and research workers here are tackling the bush to rid the land of tsetse flies. These carry the dread trypanosomiasis that kills cattle and causes sleeping sickness in man.

To learn about the work being done, I talked with Dr. Hugh M. O. Lesser, Director of the East African Tsetse & Trypanosomiasis Research & Reclamation Organisation.

As its ponderous name indicates, the organization's task is threefold: first, the study of the life history, habits, and needs of the fly to learn the easiest possible way of destroying it; second, research on the trypanosomes the fly carries, and, thirdly, reclamation of the land by freeing it from infestation.

"Two-thirds of Tanganyika and large portions of Uganda and Kenya are uninhabitable because of the fly," the doctor told me. "In several places it is advancing and people and their cattle are retreating.

"While the tsetse carries sleeping sickness to humans, it is the cattle that most concern us. If man develops sleeping sickness, we can usually cure him quickly with modern medicine. But East Africa is not prepared to live without cattle."

"What about the newly discovered antrycide inoculations for cattle?" I asked.

"The discovery of antrycide is an advance and its results are very promising, but much research remains to be done before it is safe to use the drug extensively in the field. It is an aid, not a panacea. As with other drugs it is possible that if inoculated cattle are kept any length of time in tsetse areas the trypanosomes may acquire resistance to the drug. If so, we would have a drug-resistant strain even more difficult to combat.

"The real solution, as we now see it, is reclamation of land where it is wanted for

* See "Pilgrims' Progress to Mecca," 22 illus. in the [illegible] NATIONAL GEOGRAPHIC MAGAZINE, November

some specific purpose rather than to try to free thousands of miles of territory where there is no particular need and where no population is waiting to move in" (page 329).

But in tsetse bush areas later I watched research workers count flies and examine them to determine the species as habits of the several tsetse species differ. To do this they drove a bullock as lure through the brush and counted the flies that settled on its body! Two lads also carried a large cloth screen on which other flies lighted.

Elsewhere I saw men testing chemical fog apparatus on a railway line to de-fly trains and thus keep the tsetse from hitchhiking rides to hitherto unaffected localities (page 325).

"Tsetse flies are only one of our problems," said one Government scientist. "There's land erosion, lack of water, and overcrowding in many native districts. A part may be attributed to the flies, but not all.

Natives Learn to Conserve Soil

"We're putting much emphasis on soil conservation and native welfare. It is just hard-headed business sense, as you Americans say, to save our soil, utilize water as best we can, and keep the millions of natives healthy and self-sustaining if permanent gains are to be achieved."

On my first trip out of Nairobi I headed for Machakos, Ikutha, and other villages of the Wakamba tribes which lie to the southeast toward Mombasa.

Crossing the plains, we climbed dirt roads into the hills. It doesn't take long to discover soil erosion here. Some of the hills are almost completely raw red where rains and constant tilling have lacerated the slopes.

In several places I saw trained natives showing farmers how to contour terrace their steep farms to hold both soil and water.

By chance, too, we bumped into an itinerant native welfare team at work in one tiny village. Superb at mimicry and play-acting, they were putting on a skit before a circle of onlookers who sat beside one of the grass-thatched huts. Others strolled in to look, listen, and giggle over the performance.

Within a few mirth-provoking minutes the actors managed to emphasize the value of farm terracing, that flies should be kept from food, and that sick persons should go to a local dispensary or hospital rather than rely on witch doctors.

A few miles southeast of Machakos the Government has recently cleared an area as an experimental resettlement project for the overcrowded Wakamba. To date they have cut away some 4,500 acres of bush and selectively cleared another 13,000 acres to banish tsetse flies.

Tough task was getting rid of rhinoceroses. White hunters had to be called in when the belligerent beasts wouldn't leave the area. In all, they shot 1,000 rhinos!

Africans Dance and Build Dams

Near Ikutha we found the Wakamba building several new catchment dams before heavy rains come. I had heard that these tribespeople were famous as dancers and acrobats, but I did not expect to see them carry dance movements to dirt digging.

Before a row of pick wielders stood a conductor with a long bobbing feather stuck in his hair. He would start a chant; then the pick men would join in, pose on one foot, wiggle their bodies, and lift their picks. More chanting, more wiggles, and down would come their picks (page 320).

Sweat poured from their bodies as they went through these odd contortions, but they were getting work done and having fun at the same time.

Near by, a double row of women passed pans of dirt up to the dam. They, too, wiggled, twisted, and sang as they tossed the pans from one person to another. By the end of the day the dam showed an appreciable advance.

Next day there was a dance in the village. Dozens of young men and women, their upper bodies bare except for the elaborate head ornaments of the women, danced for hours in the boiling sun to the thump of big drums and screaming police whistles.

The cartwheels, somersaults, and high leaps of the men and the stamping gyrations of the girls would make American jitterbug seem like a slow waltz (pages 317, 319, 335).

The dance cost me two young bullocks for slaughter. The meat was cut up and portioned out to the dancers under supervision of the village chief.

Journeying farther southeast on the Mombasa road, we came to Mtito Andei. Along the road we had seen several herds of giraffes, zebras, Thomson's gazelles, and one elephant. Here at Mtito Andei we were at the edge of Tsavo National Park.

Rhinos and Elephants Traffic Hazards

"We had better start just after daybreak," said R. E. Stephens, the park warden, with whom we planned our trip into Tsavo. "We don't want to run into rhinos or elephants we drive only by truck headlights. Sometimes they get nasty."

Next day we roamed trails through the

reserve—had saw no elephants [illegible] Stephens was crestfallen. Seldom had anyone been there without coming upon these big beasts.

We found a variety of other game, and in the park at Mzima Springs saw herds of grunting hippos lazing in the water.

Here water gushes from the lava rock and forms a series of crystal pools in which scores of hippos live. The pools are so clear you can watch every movement of the animals.

We watched the antics of a baby calf with its mother as it climbed up her side to get to the surface to breathe (page 373). Lying in one pool, too, was a big bull hippopotamus recovering from a brush with a lion. Partially healed claw marks extended almost the full length of his back.

"It's unfortunate I couldn't show you the elephants or rhinos," Stephens said apologetically when we were back almost within sight of the hotel at Mtito Andei. Hardly had he spoken when two rhinos stepped from the bush ahead of us, paused for a moment on the path, and then trotted away.

We stared, swallowed our wisecrack ribbing and invited Stephens to dinner.

Fifty miles inland from Mombasa is Mackinnon Road where the British are building a large military depot. Big Quonset huts and other installations are scattered over a wide area.

The town of Mombasa is located on an island. The island and a 10-mile-wide strip of coastline really belong to the Sultan of Zanzibar.

This coastal district was leased from the sultan back in 1895 for approximately $30,000 a year, at the present valuation of the British pound. It comprises the protectorate portion of Kenya's double designation: "Kenya Colony and Protectorate."

Arab Dhows Crowd Mombasa Harbor

Seldom can one find sharper contrasts than those between the two sides of Mombasa island. On the eastern side is the crowded old city with its narrow alleys, brass-studded wooden doors, venerable mosques, and historic Fort Jesus (now a prison), built by the Portuguese in the 1590's (page 336).

Here, too, is the old harbor where Arab dhows anchor on their annual trips from Muscat, As Suf, and other Arab ports.

In the center of the island, adjacent to the old town, are white streets and up-to-date shops. And on its western side is Kilindini Harbour where steamships tie up at modern docks (pages 322, 323).

At the time of my visit the southwest monsoon was just beginning to blow. The dhows were making ready to return home.

I went out to visit them. A longboat met me at the dock, its 10-man crew chanting as they heaved at the oars.

Going aboard the dhow *Gift of God*, I found the afterdeck spread with oriental rugs. Over bitter coffee, dates, and sticky *halawa* (sweet) the Muscat captain and I talked dhows and African coast trade.

These craft ride south on the northeast monsoon, carrying dates, incense, dried shark, salted kingfish, Persian carpets, and brassware. Riding back on the opposite monsoon they are loaded with mangrove poles, tea, coffee, sugar, maize, and fats.

For centuries the Arabs have trafficked along this coast, and many of the coastal Swahili, a Bantu people, have a considerable mixture of Arab blood. Their language, Kiswahili, spoken from Aden to Durban and inland throughout East Africa, is likewise a Bantu-Arab mixture, with a more recent addition of Portuguese and English words.

Motoring Around Mount Kenya

From the coconut-studded tropical coast I returned to the cooler highlands and set off almost immediately on a motor loop around Mount Kenya.

Monsoon clouds jealously guarded Kenya's crown, but we managed to gain glimpses of his snowy peak, which towers like a rodd sang tooth to the height of 17,040 feet (page 313). Actually, Kenya's peak is the rocky core of an ancient volcano that has been laid bare by ages of erosion.

The upper portion of its pyramid appears small, but its area above 11,000 feet, reserved as a mountain national park, is 300 square miles. Its culminating jagged crags are still a challenge even for the hardest rock climbers.

Cold trout-stocked streams tumble down from these mountain heights.

Encircling Kenya, we threaded through several European farms and cattle ranges. Much of the region, however, is crowded with the round grass-thatched huts of the populous Kikuyu tribe and their cousins, the Meru and Embu. Native gardens pattern the rolling hills (pages 326, 341).

On community threshing floors heavily laden womenfolk flailed piles of millet and winnowed grain. Men hoed their corn patches preparatory to planting.

Roaming the hills, we came upon numerous open markets. Crowds of women, most of them weighed down because of the weight of numerous bead bangles, sat among piles of green bananas, bags of corn flour, beans, heaps

Whirling Aerial Somersaults Climax a Wakamba "Baboon" Dance

[illegible]

[illegible] twisted sisal twine, knives, and [illegible] clusters [illegible] the goat and [illegible]

Turning from these [illegible] we [illegible] [illegible]

[illegible] we had [illegible] Nairobi. Hills a few miles from the capital, we were on the brink of the Great Rift Valley escarpment. Around sharp twists and turns we [illegible] down the steep slope to [illegible] where lay Lake [illegible]

[illegible] and the land seemed utter desolation. Had it not been for the heat we might well have [illegible] Masai [illegible] wilderness.

Lake Magadi Solid with Soda

[illegible] "lake" is a 30-square-mile sunken [illegible] sodium carbonate, the same as [illegible]

[illegible] pounds [illegible]

"The mineral springs feeding the lake carry both salt and soda; yet the deposit is almost pure soda," said the manager of the plant.

"When we pump liquor from the lake into these salt pans," he explained, indicating a large evaporation area near by, "we get salt and soda in their proper proportion—one part salt, two parts soda. Incidentally, the salt conveniently forms on top, and that's how we produce 15,000 to 18,000 tons of salt for Kenya and Uganda every year."

"What happens to the salt in Magadi?" I asked.

"We don't know. The only explanation seems to be that the lake has some outlet, that allows the salt-bearing liquor to seep away."

Archeologists Unearth Rich Finds

While I still pondered the mystery of Magadi, we stopped at the nearby archeological site of Olorgesailie, discovered in 1942. Here was another thought provoker, for on the eroded valley floor lie stone axes, cleavers, and bolas stones used by prehistoric hand as man perhaps 225,000 years ago. Beside them were fossilized bones of animals, one of them a thighbone of a gigantic extinct elephant.

Talking later with Dr. L. S. B. Leakey, Curator of Coryndon Museum in Nairobi, I learned that Olorgesailie is only one of some 600 archeological sites found in East Africa.

"Among fossil fauna of the Lower Miocene age, some 25,000,000 years ago, we've found parts of over 300 apes—more than all the rest of the world put together," said the doctor. "They represent four genera and six species, ranging from the size of a gorilla to a small pigeon. The associated fauna we've uncovered ranges from wood lice to centipedes, fossil rhinos, elephants and carnivores."

Prized find is an almost complete skull of an anthropoid ape, discovered in October, 1948, which has characteristics linking it on the one hand with the stock from which man probably came, and on the other with the great apes. It is now in the British Museum in London.

"We have an almost uninterrupted story of man's cultural evolution in East Africa from a million years ago," added the doctor. "We've a small part of the jaw of the oldest known human, the Kanam mandible, an abundance of tools from two contemporary cultures of 50,000 years ago, which hitherto were thought separate; and earthworks and a village of the Neolithic period just before Christ."

He also showed me excellently fashioned beads of Stone Age people and charred fragments of calabashes from a Neolithic site, which are the earliest positive evidence of the use of the calabash by man.

To the "White" Highlands

From such antiquity I took off northwestward into the highlands where European farmers till soil with tractors and native tribesmen still use the calabash.

Between Nairobi and Nakuru I journeyed over one of the few fine roads in the Colony, an asphalt highway built by Italian prisoners during the war.

Most roads throughout Kenya and Tanganyika are dirt or gravel, and often during heavy seasonal rains you have to put on chains to get through the welter of mud. The porous laterite earth roads of Uganda usually remain good in all seasons.

Some 30 miles from Nairobi the highway drops crowns the steep wall into the Great Rift Valley and then swings past Longonot, one of the numerous burnt-out craters that line that spectacular land crack.

A short distance beyond is the village of Naivasha, where is located a large creamery for European dairy farms in the locality.

Not far away spreads Lake Naivasha. Since last May big British Solent flying boats have been using it as a way roost on their 5-stage flights between Southampton and Dar es Salaam (page 345). Before these swift migrant birds alight, local airline officials run a launch over the water to see that the patch is clear of hippos.

Farther along the road are two other lakes, Elmenteita and Nakuru. As I mounted hills overlooking Elmenteita, I could see large pinkish-white blotches on its surface. Tens of thousands of flamingos gathered on its shallow waters to feed.

Beside the road above Elmenteita a company mines diatomite, used as filters, fine abrasives, insulation, and as filler material. Actually diatomite is massed white skeletons of microscopic water plants deposited here geological ages ago.

When I reached Lake Nakuru, whirling dust devils danced across its white salt surface. The long dry season had sapped all its water. Two weeks later when I passed there again rains had begun and the lake was limpid blue.

Much less evanescent is the town of Nakuru near by. It is a sound thriving center catering to the needs of the European settlers in the heart of the highland.

The town has numerous shops, a large European school, hospital, a farmers' cooperative association, and, typically British, a popular sports club and race course. Here also is

Wakandan Use Their Arm Blades Instead of Sticks to Beat Drums for a Dance

Bodies Twist and Picks Swing in Time to Native Chants as Wasambo Women Build a Catchment Dam

[illegible]

Vivid-green Tea Plantations Pattern the Rolling Hills near Kericho, in the West Kenya Highlands

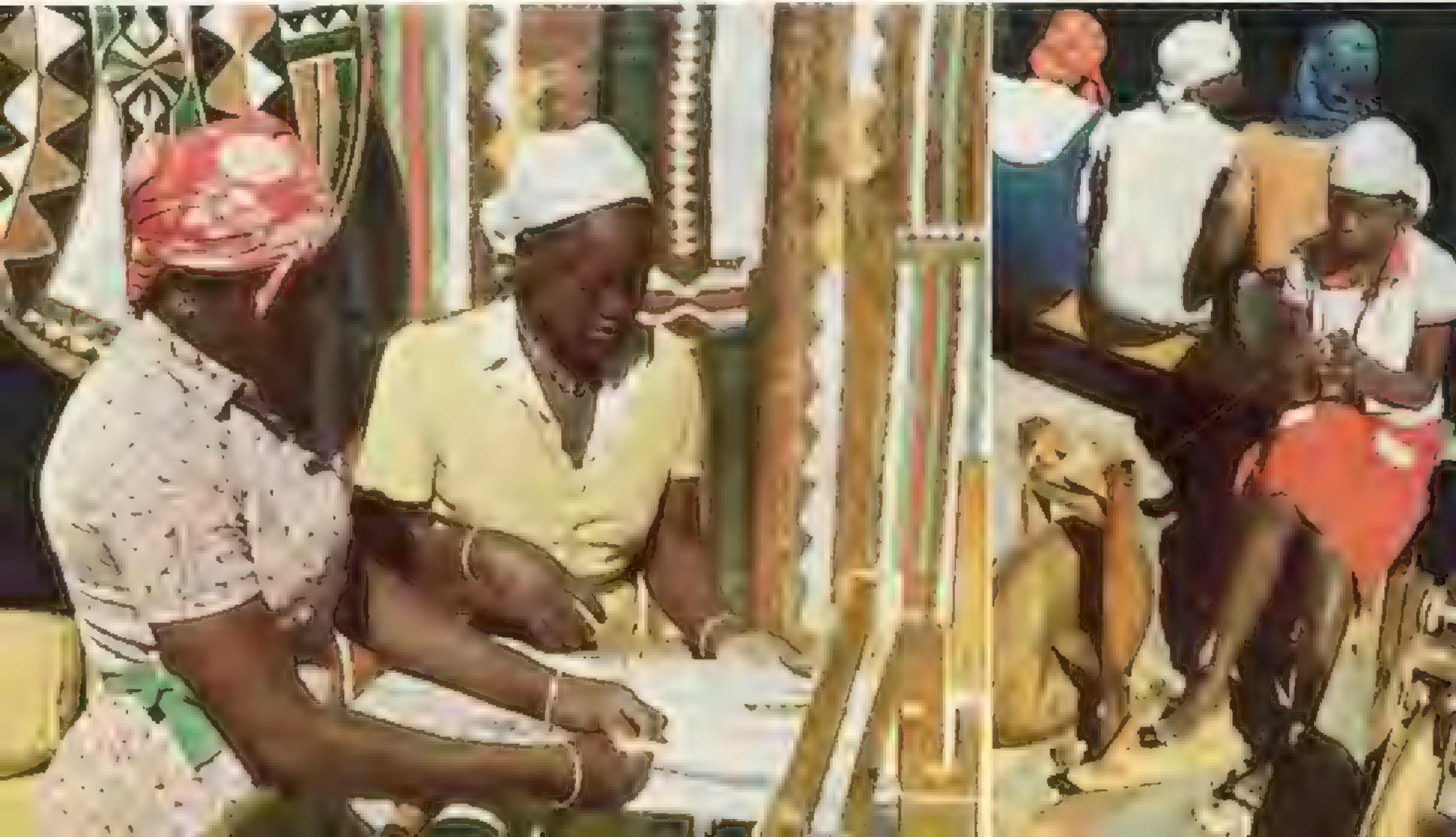
Few Centuries Ago Hundreds of Ocean-Going Arab Dhows Have Visited Mombasa, Whose Old Town Crowns the Harbor Shore

[illegible]

Mixture of Warts and Busy Sexual Character Are Market Days Among the Kissavis

[illegible]

On Simple Spinning Wheels and Clacking Looms, These Students at Kericho Learn Their Lessons



Mexican Vulture's Nest, Found on Tree-branch Overhanging a Precipitous Rock

published the 72-page *Kenya Weekly News*. At Nakuru, too, are association offices and a processing plant for the pyrethrum industry. Pyrethrum is grown extensively in the highlands for the insecticide produced from its flowers.

A few miles beyond Nakuru, near Molo, I stopped to visit the Egerton School of Agriculture where young Kenya lads are taught farming. Following the war, ex-military men arriving in Kenya to take up farms were given special courses here. Some of their wives also attended classes. Among the veterans taking the school's courses was one American lad, married to a Kenya girl, enrolled under the GI Bill of Rights.

I roamed to Eldoret, Kitale, Kericho, and tiny crossroad communities to see these "white" highlands. Wide farms alternate with wooded areas. Some of the woodlands are indigenous, but many are wattle plantations, grown for wood and also for their bark, which yields an extract for tanning.

Cool Uplands on the Equator

In a single day's drive through this region I crossed the Equator four different times. Climate in these uplands belies the belief that all equatorial places must be hot. Look at the elevations marked on the railway stations and you see why.

Nakuru is 6,024 feet, Eldoret 6,863. Between them the road and railway wind through hills to reach a high point of 9,001 feet at Timboroa. The sign at Equator station reads: "8,710 feet." Temperatures here sometimes dip to 40° Fahrenheit (page 335).

Much of Kenya's tea cultivation is centered about Kericho. Vivid green plantations cover the rolling hills. The two largest estates in the locality have a combined planting of some 12,000 acres. In all, Kenya produces some 13,000,000 pounds of tea annually (page 321).

After watching tea pickers at work on the plantations, I visited a native spinning and weaving school in Kericho town. Workers spin cotton and wool on single wheels and weave mats, towels, blankets, and scarfs on hand looms. Some of the colorful patterns they use are copied from old Kipsigis painted hide shields (page 325).

Only a portion of western Kenya is allotted to European farming; the rest is native reserve. Tribal folk are numerous and of many clans. Some till the soil; others are primitive goat and cattle herdsmen clad only in beads, brass bracelets, and brown goatskins. Tribes in northwest Kenya wear not even skins except their own.

We cruised through many villages where groups of native marketers gathered and finally came to Kisumu on the shore of Lake Victoria.

Kisumu leads a double life—one connected with the lake, the other with the land. The town is terminus of the steamer service which the East African Railways and Harbours Administration operates around this vast inland sea in conjunction with the railway from the coast.

Late one afternoon I drove a few miles out of town to a cove where the fishing dhows anchor. Just before sundown these lateen-sailed craft lift their white wings like big pelicans and go out on daily fishing expeditions. The fish they catch are sent to Nakuru, Nairobi and other Kenya towns (page 340).

Leaving Kisumu we circled northwestward, crossed into Uganda, and came again to Lake Victoria at Jinja.

You can stand on the shore above the lake and gain the same thrill that the explorer Speke must have experienced when, in 1862, he discovered that here was the beginning of the Nile. The overflow waters of Victoria surge over Ripon and Owen Falls and cascade into a ravine to begin their long winding march through Uganda, Anglo-Egyptian Sudan, and Egypt to the Mediterranean (page 131).*

A Dam for Lake Victoria

Soon the picture will be changed. Engineers have started to build a dam just below Owen Falls. Both Ripon and Owen will be obliterated as soon as the water behind the dam is brought to Lake level.

"We have an almost unique situation as regards dam building," said the engineer who showed me around. "Most dams are built to create a reservoir. Ours is already here—it's Lake Victoria."

Victoria is the world's third largest lake. Only the Caspian Sea and Lake Superior are larger.

The new dam project here is really two stories. Uganda wants power, and distant Egypt craves water. Uganda thus is spending some $20,000,000 to erect a 60-foot-high dam across the 800-foot wide river and put in a big power station. Four generators of 15,000 kilowatts each are planned to start operating in 1953, but the power station is designed for 10 units—a total of 150,000 kilowatts.

Egypt, to help slake its thirst, is paying an additional $11,200,000 to compensate affected interests and raise the dam one meter to increase the storage capacity of the lake.

Think of raising the water level of 27,000-square-mile Victoria more than three feet!

* See "By Felucca Down the Nile," by William Price, NATIONAL GEOGRAPHIC MAGAZINE, April, 1950.

Chemical Fog Keeps Tsetse Flies from Hitchhiking Rides on Kenya Trains

Scientists set up this unit in a railroad cut to test ways to halt the spread of the tsetse [illegible] On some highways motorcars are brushed free of flies after they have passed [illegible]

[illegible] times all the water stored in our own Lake Mead behind Hoover Dam!

[illegible] that molted layer on Victoria in gallons [illegible] New York [illegible] the Great Lakes [illegible] thousand days [illegible] that reserve to accumulate [illegible] controlled flow fed constantly into the Nile as we know [illegible]

Power to Speed Uganda Progress

[illegible] Uganda's [illegible] increase at a surprising rate. We're building Diesel plants to care for domestic and industrial [illegible] We're [illegible] in [illegible] plants. Most [illegible] Mount [illegible] will supply power [illegible] will have developed a good load by the time the dam generators are ready.

"Other possible industries are milling [illegible] refining, cotton ginning, [illegible] paper making, the [illegible] Uganda's [illegible] from cotton seeds [illegible]

"We also plan to extract [illegible] from [illegible] near Tororo, 95 miles from Jinja, and [illegible] production [illegible] We could [illegible] sugar mills [illegible] at Jinja, and perhaps [illegible] generators would be overloaded.

"What happens then?" I asked.

[illegible]

Inoculated with Antrycide, This Cow May Become Immune to Disease Borne by Tsetse

[illegible]

[illegible] Through [illegible] A man gone berserk began [illegible] lions. [illegible] around [illegible] upset the [illegible] own native rulers, the Kabaka of Buganda, whose palace stands on one of Kampala's seven hills.

With [illegible] car I left the city and rode into quiet native districts outside Buganda.

Spear-toting Herdsmen Tend Cattle

In southern Uganda spear-toting herdsmen tended their colossal-horned Ankole cattle (page 344). In the far west clouds lifted to give brief glimpses of the snow peaks of Ruwenzori, the "Mountains of the Moon."

[illegible] I joined a launch party going to Murchison Falls. This trip to Murchison is like no other I have seen. Leaving at 8 in the evening, we cruised northward to where the Victoria Nile enters the lake and anchored for the night.

Next morning in the faint light of dawn we began threading the river [illegible] growths of papyrus and [illegible] water [illegible] the river.

Hippos wallowed on the [illegible] and [illegible] plunged into the water [illegible] We saw thousands [illegible] hundred or more. There were hippos everywhere.

And crocodiles. Hundreds of these knobby

Bales of Cotton On Board the S.S. *Congo* at Mwanza on Lake Nyanza, Africa's Large Inland Sea

The Birth of the Nile—Waters Spilling from Lake Victoria Soon Will Turn Hydroelectric Generators for Uganda Power

Accustomed to Swinging Mattocks, Tanganyika Natives Now Drive Tractors

[illegible]

Keen Eyes Spot Precious Diamonds in This Gravel

[illegible]

[illegible] eastern sides of papyrus fringed [illegible] Kioga and came once more to Jinja. [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

cated the advance of the Baganda over most other East African natives. Bicycling men here often pedal their womenfolk around with them; among other tribal folk, plodding women tote the heavy burdens of the family while the men walk ahead unencumbered.

I also motored to Entebbe, 20 miles from Kampala, where is located the British administrative center for Uganda. It is an Elysian town set in the midst of green gardens on a slope above Lake Victoria. It perches almost on the Equator.

Uganda is the smallest of the trio of East African territories.* It has an area of only 93,981 square miles, against Kenya's 224,960 and Tanganyika's 360,000. Its population, numbering under 5,000,000, however, is only 188,000 less than in Kenya. Larger Tanganyika has just over seven million people.

Leaving Uganda, I returned to Nairobi and then flew south to Dar es Salaam, capital of Tanganyika.

Despite its Arabic name, meaning "Haven of Peace," Dar es Salaam has none of the Arab flavor found in Mombasa or in near-by Zanzibar. The Germans raised it from a tiny fishing village to a town of wide streets and sturdy buildings. Many of the buildings would seem more at home in Europe than sitting here among mango trees, red-flowering flamboyants, and tall coconut palms.

Of late, Dar es Salaam's land-locked harbor has been overcrowded with ships, for here the British brought supplies for their Groundnut Scheme inland at Kongwa and Urambo, and here Williamson Diamonds, Limited, lands its heavy equipment.

The railway which stretches from Dar es Salaam to Kigoma on Lake Tanganyika likewise has had a bad case of transportation indigestion.

Tanganyika's Liveliest Topic—Peanuts

To see what is going on up in the interior, I went first to Kongwa, where British workers have begun the East African Groundnut Scheme.

Living in army tents and feeding in messes, these people, in 1946, began the "Battle of the Bush." Some still live in tents, and the gains have fallen far short of the objectives set for them in London.

As you see bulldozers "bush bashing" and heaping the tangle into windrows to clear the land, you wonder how the work has progressed as far as it has. But by trial and error the workers have learned [illegible] ways.

They have found, for instance, that two bulldozers with a long heavy chain looped between them can level a 50-foot swath faster than a man can walk. I know! I tried walking.

Last year, after three years' work, Kongwa had only 50,000 acres planted to peanuts, sunflowers, and some corn. As everywhere in East Africa, there was a drought, and the crop was badly damaged. Kongwa's total harvest was only 1,600 long tons of shelled peanuts and 500 tons of sunflower seed (pages 348, 349).

The remainder of planned clearing of 90,000 acres was progressing well.

Over at Urambo, 300 miles to the west where the second project is under way, 2,750 acres were planted last year. Target is 20,000 acres for 1950. Here the land is covered with large trees rather than low thick bush; so clearing is less of a problem.

Thus far, only a small amount of work has been done in the peanut area in southern Tanganyika. Development there awaits the building of Mikindani harbor and the completion of a new railway to the site. Once these are finished and equipment can be transferred from Kongwa and Urambo, work will begin in earnest on a planned 1,650,000-acre project, which, say the directors of the Overseas Food Corporation, has better soil and rainfall than the other two areas.

Diamond Mines in Tanganyika

Of central Tanganyika one wit wisecracked, "Here the groundnuts are like diamonds and the diamonds are like groundnuts!"

His reference was to the rich diamond finds of the Williamson mines at Mwadui, near Shinyanga. Dr. J. T. Williamson, a Canadian geologist, found his first diamond here in March, 1940, after five lean, hard years of [illegible].

How he located the place in the vast expanse of Tanganyika is a mystery to the layman. But as in all mysteries there are clues if you can read them. Williamson did. The X that marked the spot is now an enclosure with multiple wire barricades guarded by [illegible] police. You get through the gate only by invitation and a pass.

Diamondiferous gravels underlie a thin layer of black cotton soil in the 4.7-square-mile rectangle within the inner barbed-wire enclosure. Beneath that lies a kimberlite pipe, so named from the blue earth-filled volcanic vent of Kimberley in South Africa.

As yet, Williamson himself does not know how rich the mine really is. Only a few gravel patches thus far have been mined. Grid test trenches are being run over the

* See "Uganda, Land of Something New," by Jay Marston, National Geographic Magazine, January, 1937.

The Equator Is Equatorial in Name Only; Here the Climate Is Temperate

[illegible]

Witchcraft Dissolves Strife, Jokes and Tomfoolery in a Dawdling Dance

[illegible]

Despite Its Stout Walls, Old Fort Jesus in Mombasa, Built by the Portuguese in 1593, Was Captured and Recaptured Several Times

Long Hair Is the Badge of Young Women: Married Women Wear Close Crops

[illegible]

[illegible]

Kilimanjaro, in Tanganyika, Is the Highest Peak in the African Continent

Actual is the mountain has two summits. The symmetrical volcanic cone of Kibo rises to 19,565 feet. The 17,564-

Ngaje Ngai, "House of God," Masai Tribal People, Lake Eliasita, Ngorongoro Volcanic Crater

Sunset Strikes Dhows Sails to Gold as Fishermen Leave Kisumu for a Night Fishing Expedition on Lake Victoria

Sue Bows Ratsaas by the Stem, Instead of the Hand

No Tap Water at Home: So Housewife Packs It on Her Back

At Manchison Falls the Nile Surges Through a Narrow Gorge, Then Leaps into Space

[illegible] Mr. Maynard H. de Clume [illegible] Rest, a Soldier Mighty on Land Victorious

[illegible]

B.O.A.C. Hostess Gives an Asset as Passengers Disembark at Port Hall

[illegible]

Even a Texas Longhorn Would Find a Worthy Competitor — These Ankole Cattle of Southern Uganda

From These Reeds, the Papyrus, Growing in Abundance in Canada Swamps and Rivers, We Get Our Word "Paper"

Seeking Pasture Approximates in East Africa an Excursion of the British Navy Has Made This Special Issue

Costume Jewelers Take Note! Miss Wesson's Bead Collars, Earrings, and Coiled Wire Necklets Offer New Fashion Ideas

[illegible]

Acres of Sunflowers Turn Their Gold and Brown Faces Toward the Sunny Turquoise Skies

Two Years Ago Marked Bush Covered the Red Tomato-like Earth Where Cross Cross Orderly Rows of Peanuts

Musar Women Find Quick Ways to Spend Savings Brought from Sale of Cattle

[illegible]

area to assess its worth. The kimberlite pipe is untouched save for a single exploratory shaft.

A Day's Take—1,351 Diamonds!

A single day's take when I was there was 1,351 diamonds. Many, of course, were just tiny specks, but one was 34 carats.

In the first three months of 1949 the mine recovered more than $2,000,000 worth of stones. Biggest one found thus far is 124.17 metric carats. Most spectacular one is the rare 54½ metric carat pink stone given to Princess Elizabeth as a wedding present.

One scarcely expects to see diamonds dug with huge scrapers, power shovels, carryalls, and trucks; yet that is how the diamond gravels are handled. In the concentration plant the diamonds are finally separated from the gravels, partly by machine and partly by hand (page 333).

The mine has built excellent homes for its European and native workers. It has schools, one of the finest native hospitals in Africa, and is just completing a $20,000 European club. In addition to materials brought by train, two planes are kept busy carrying freight and foods to this tiny oasis in the heart of Tanganyika.

Tanganyika has other mines. There are gold fields in the Lake Province, in Central Province, and one in the southern highlands. A railway is being extended to Mpanda, 200 miles southwest of Tabora, where there is a rich lead-silver-copper-gold-zinc lode.

Near Old Shinyanga I visited a large tsetse fly research center. In the vicinity of Mwanza, a port on Lake Victoria, I saw also work on the large Sukumaland resettlement program. Native farmlands are overcrowded in the region. Efforts are being made for resettlement of people, improvement of crops (mainly cotton and millet), and for introduction of new foods and better cultivation.

From western Tanganyika I turned back to explore the region about snow-crowned Kilimanjaro and near-by Mount Meru.

On the northern side of these imposing volcanic peaks the land is a waste of desert and thornbush. It is a haunt mainly for wild beasts. On the southern side, where rain clouds collide with the mountains, glaciers and snow descend as low as 12,500 feet on Kilimanjaro, and the countryside is green, rich, and th[illegible]

When the Germans held the territory prior to World War I, they established [illegible] white colony here. Europeans have built thriving communities at Arusha and Moshi. Homes of the Chagga tribe also crowd the hillsides. The slopes are lush with banana and papaya gardens, cornfields, and coffee plantations.

A sharp contrast indeed is the territory outside this well-watered district tilted against Meru and Kilimanjaro. North, west, and south stretches Masailand, where cattle herding Masai dwell in mud-and-dung-plastered huts set inside thorn-encircled corrals. They live mainly on blood and milk of their herds.

Proud, still clinging to their ancient ways, and dressed in goatskins, blankets, and bead ornaments, they are a picturesque lot. Their spare forms, high straight noses, and slender bodies set them apart from the Bantu peoples of East Africa (pages 347–350).

Masai Apprenticeship for Marriage

The circumcision ceremony is the basis for the whole tribal organization. Periodically, all boys who have reached a certain age are initiated into the warrior class, in which they remain for a specified period, usually 10 years. Only after they become "elders" upon graduating from the warrior class can they marry.

These young warriors let their hair grow long and smear it into elaborate patterns with red ocher. Theoretically, they guard the cattle and homes against raiding beasts and hostile tribes; but, having few enemies these days, they find diversion among the maids of the tribe and are frequently caught trying to steal cattle or indulging in the outlawed rite of "spear blooding."

The Wagogo tribes near Kongwa are Masai ways. Every youth's ambition is to be [illegible] taken for a Masai warrior (page 337).

East Africa has an amazing medley of such tribal groups, each with its own customs and language. They stem from Hamite, Nilote, Bantu, and other racial strains. These native folk compose more than 98 percent of the 17,250,000 population in Kenya, Uganda, and Tanganyika.

Of the remaining scant two percent of other peoples, nearly 100,000 are Indian both Hindu and Moslem, who outnumber the Europeans almost four to one. There are smaller groups of Arabs and Goans.

As varied as its peoples is the country itself—deserts, vast lakes, fertile farms, snow mountains, tropical palm-studded coasts, and wild game wonderlands. Parts of East Africa are densely settled; but there are still places where, to use the expression I found in an East African Journal, "the hand of man has never yet set foot!" *

* For additional articles in the [illegible] the Nile and Victoria Falls, see [illegible]

Like Some Awesome Black Hailstorm, Millions of Locusts Descend on Kenya

[illegible]

Roaming Africa's Unfenced Zoos

By W. Robert Moore

THE DRIVER of our sport utility car jerked his thumb backward like a hitch-hiker and slowed down. We held up two fingers.

"There's a pride of nine lions a mile down the road! They've made a kill," he shouted as we drew abreast.

"Thanks. We just saw two leopards on the left by-pass 300 yards back," we replied.

Having thus exchanged information, we accelerated again.

A herd of fifty impalas and several shy kudus moved toward the nearby river to drink. A family of monkeys scampered through the bushes. At the moment we gave them scant attention. But drove to the spot where the lions were snarling over a zebra kill and noisily crunching its bones. Vultures wheeled overhead anticipating leftover morsels.

In Kruger National Park

This was my introduction one morning to African wild game. We had driven from Johannesburg to Kruger National Park, in the northeast corner of the Union of South Africa.

All about us, as we threaded the bush trails, was a veritable alphabet book of beasts and birds. Ranging from antelopes to zebras, our list included baboons, cheetahs, crocodiles, elephants, giraffes, hippos, impalas, leopards [illegible]

Here also were weird wildebeests (those crossword-puzzle ghosts!), dukers, klipspringers, stalking secretary birds, and ugly warthogs. And lions—we counted 65 in two days.

This was no fenced-in zoo, but a vast wildlife sanctuary of roughly 5,000,000 acres where the animals wander at will [illegible] own battles unhampered by man. We [illegible] cars were the ones that were [illegible] animals are free.

Thanks to "Oom Paul" Kruger, president of the onetime Boer Republic of Transvaal, and other kindred minded persons who set up this and several smaller reserves in the [illegible] Africa still has a striking sample of [illegible] that roamed the land before man came to dig gold, hunt diamonds, cultivate farms, and build cities.

The satirist, Jonathan Swift, once taunted map makers with the verse:

> So geographers, in Afric maps
> With savage pictures fill their gaps,
> And o'er unhabitable downs
> Place elephants for want of towns.

As you travel through the Rhodesias, Tanganyika, Kenya, Uganda, French Equatorial Africa, the Belgian Congo, or elsewhere on the continent, you wonder if those old map pictures weren't appropriate after all.

Africa has its unbearable tsetse downs (tracts of open uplands) and its elephants, plus a fabulous variety of other animals. No other continent possesses such abundant wildlife.

But here, as in other parts of the world, game is retreating before man's quest for land. Fortunately, as the demand for farms and [illegible] most countries and colonies are making provision to preserve at least a portion of their rich heritage of wildlife, particularly species threatened with extinction.

Scattered over the face of Africa today are well over 100 game reserves of one type or another. Among the best known are Kruger National Park in South Africa and Parc National Albert in the Belgian Congo.

Natives Protest Game Protection

In many places African natives fail to appreciate the preservation of game. They see no reason why they should not kill animals when and where they please.

"Those Government *cattle*," growled one old chief who lives beside one such reserve. "They eat our crops, yet the Government protects them!"

While the destruction of game in Africa is nowhere so wanton as was the slaughter of bison in our West, there is a striking similarity between Buffalo Bill's shooting of buffaloes to supply meat for railway construction gangs and the acknowledged slaughter in the Belgian Congo of 60,000 elephants annually, mainly to provide food for native workers in the mines.

Elephants, biggest of all land mammals, range over a sizable portion of the continent.* In places such as South Africa where they once were plentiful, their numbers now can be counted in scores or a few hundred at most. But from the Rhodesias northward there are thousands.

[illegible] "Wings Over Nairobi," [illegible] "When a Leopard Stalks Africa," by A. J. Carter, April, [illegible], "Wild Man and Wild Beast in Africa," by Theodore Roosevelt, January, [illegible]

* See [illegible] "Nature's Most Amazing Mammal," [illegible] Edmund Heller, June, [illegible] in Portuguese Africa [illegible] E. Akeley, August, 1912.

Horns Clash as Two Impala Rams Challenge for the Right to Rule a Herd

[illegible]

[illegible] rapidly [illegible]

Imagine 20,000 wild elephants [illegible] in New York State [illegible] To complete the animal circle [illegible] to fill the lakes and rivers of those states [illegible] upper and crowd [illegible] a few herds of wild buffaloes and [illegible] herds of antelopes and gazelles.

[illegible] wide and five miles long [illegible] as many [illegible] other game animals [illegible] Yet such [illegible] have been [illegible] in Tanganyika [illegible] years ago.

When I flew over [illegible] this northern Tanganyika [illegible] way. But we [illegible] hundreds [illegible] wildebeest [illegible] Wherever [illegible] herds are [illegible] Though [illegible] land country in all Africa.

Observation Platform to View Wild Animals

Near Mount Kenya [illegible] I stopped at a hotel [illegible] the wild game of the vicinity. As an added [illegible] the owners have built a long [illegible] overlooking a salt lick and water hole [illegible] with wild animal [illegible]

[illegible] group of visitors [illegible] "Treetops Hotel." The [illegible]

Tails Lashing the Air, Wildebeests Duel Fiercely on the Kenya Plain

[illegible]

[illegible] the "white hunters," as the expert professional guides are called, have been featured in many novels and plays.

Ladder-like steps have been nailed to some of the tree trunks along the bush path up which persons can clamber to safety should [illegible]

Once ensconced in the tree-top [illegible] rhinos, buffaloes, waterbuck, and smaller animals [illegible] for if no big game puts in an appearance during the night, visitors get their money [illegible]

Nairobi, capital [illegible] a popular outfitting center [illegible] Several concerns there do a thriving business supplying camp equipment and transport for hunting and photographic parties. Some [illegible] for a de-luxe safari.

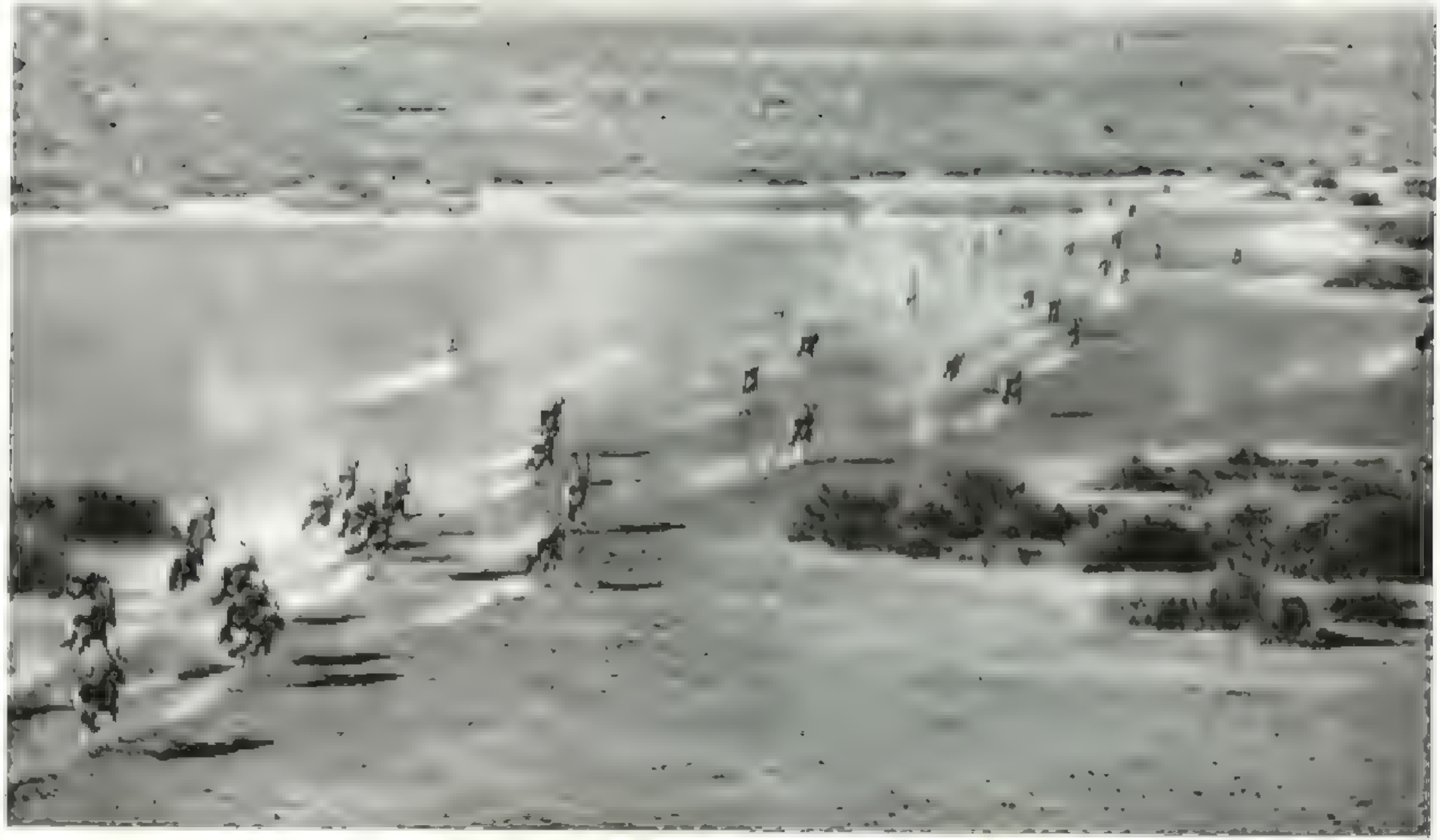
However, in Nairobi you can see wild animals for the price of a taxi fare! All you need do is drive just outside town. Few other cities in the world can boast such a convenient open zoo.

I cannot call it unfenced, for it does have [illegible] straight length of fencing has been put up [illegible] from wandering onto the runways of the local airport or [illegible] town. But [illegible] still walk around it.

Hyenas skulking into town at night are called the "dustbin patrol."

Guaranteed: "A Few Lions"

Have you seen our game [illegible] Col. Mervyn H. Cowie, Director of Kenya National Parks, [illegible] one day shortly after my arrival in Nairobi



Kicking Up Dust Plumes as They Race, Racing Geniscock Seems to Be Laying a Smoke Screen in the Kalahari Desert

[illegible]

Big Hippos Surfaced, Congo Natives Dive In with Their Spears, and Soon They Will Have Two or Three Tons of Meat and Fat

I had not yet had the opportunity.

"How about going out this afternoon, say about 5:30? I can almost guarantee that you will see a few lions. We know where some went into the bush this morning."

The suggestion was as casual as an invitation to tea. I accepted eagerly.

Turning off the highway beyond the airport, we came upon a herd of giraffes browsing in the thorn trees. We passed sleek Thomson's gazelles and eelands. Several wild ostriches, their feathers flapping like soiled ballet costumes, trotted across the plain.

As we rolled down to "Lion Valley," twelve lions had already gathered on a grassy slope, as if by special appointment. Soon they were joined by a lioness and two woolly cubs that emerged from the wooded ravine. This within five miles of my hotel! (Page 365.)

As we watched, some of the lions yawned, stood up and stretched, and lay down again. The cubs rolled and tussled with each other and bounced against their mother until she gave them a stiff cuff with her paw.

Not one paid the least attention to the cars that gathered near by. Finally, as dusk deepened, the whole pride (group) got up and started on their evening hunt for food, several threading their way among the cars.

Because the lions seem passive, many persons think that they are tame enough to pet. They forget that their automobiles conceal human odors that might attract the carnivores.

Chance along some day, however, and sit in on a lion kill. See a lion skulk through the bush, then suddenly leap at an unwary zebra. Lightninglike claws clamp into one shoulder; the other paw catches the victim's nose with a deadly jerk. You hear a loud snap, and the zebra falls with a broken neck.

See that display of power and you suddenly lose any urge to pet a lion! Like myself, you will prefer your lions at safe distance and constant, rather than compact.

A Fierce and Gallant Lion

On one occasion in Tanganyika I came upon such a kill by a big black-maned lion. In addition to being a good family provider, he also proved himself a perfect gentleman.

A moment after the zebra had been struck down, the lioness appeared, bringing four cubs. The lion then retired to one side and crouched down to wait while the cubs and lioness fairly gorged themselves. Not until they had left the kill did the well-mannered old fellow claim his share of the banquet—or was he afraid of the lioness of the species?

Of all the animals in Africa, the lion unquestionably has the greatest public appeal. Despite all the other game that may be about, most visitors somehow feel cheated if they do not see the lions (pages 366–367).*

In the 40-sq.-mile Nairobi National Park are wildebeests, impalas, waterbuck, hartebeests, baboons, cheetahs, and even occasionally rhinoceroses and buffaloes. Hippos and crocodiles laze in the Athi River pools. But lions are the biggest attraction.

The park is backed by a reserve that extends through native Masai tribal country into Tanganyika. Other reserves lie beyond the Tanganyika border. Here, as in most reserves in Africa, the only indications that the district is restricted are occasional signs posted beside the roads. Game wanders freely back and forth over the countryside.

A hundred miles south of Nairobi near the [illegible] border is a semidesert area alive with game. In the district lies Lake Amboseli. [illegible] a lake merely in name, for it has water only during the rainy season.

In this open country, against the spectacular backdrop of the snow-crowned cone of Kilimanjaro, Africa's highest mountain, you can see lions, rhinos, elephants, giraffes, and other wildlife.

Some who visit the area in high-bodied trucks get a thrill when a defiant rhino comes charging [illegible] the vehicle. These ugly beasts can drive their horns through the side of a truck body.

An Amusing Encounter with Rhinos

My most amusing encounter with rhinos took place in Hluluwe Game Reserve in Zululand. As a start toward pronouncing Hluluwe, you might try saying "shush loo" while blowing and rolling a piece of hot potato in your mouth.

I had motored there from Durban with my friend Teifel at the wheel. Teifel had a sense of humor but he saw no humor in rhinos and admitted it in fore we ever saw one.

When we located one in a distant hill we drove over. With a native guard I got out of the car and walked to the crest of a small ridge to see where the rhino had gone. Teifel came too and followed behind, limping.

He had sciatica in his hip—at least so he thought—until the rhino gave a loud snort in a near-by bush. Teifel vanished. So did the rhino, but in the opposite direction.

We found Teifel back in the car.

"E's no gentleman, snorting that way, but [illegible]," Teifel said between quick breaths.

* See "King of Cats and His Court," by Victor H. Cahalane, National Geographic Magazine, February, 1958.

"He Just Surpasses Trees," Zulus Call the Short-necked Giraffe

[illegible]

Having Finished Their Morning Drink, a Herd of Lithe Sleek Impalas Trotted up a River Bank

[illegible]

Alert Impalas Sport Lovely Scone Rods (Lyres) and Diagonal Black Stripes on Every Side of Their Rumps

Dazzle Pattern Camouflage Zebras Grazing on the Red Plains of Tanganyika

[illegible]

Kodachrome by W. Robert Moore

Heads Up, Sniffing the Air, Zebras Are Ready to Gallop to Safety if Danger Threatens

[illegible]

Range of the Defassa Waterbuck Is a Light Patch on the Map; Common Waterbuck Have an Elliptical White Ring

[illegible]

Well Fed from a Night's Hunt, These Lions Sleepily Digest Their Meal Only Five Miles from the Center of Nairobi

"Don't Come Close—I Might Get Tough!"
This Yellow-eyed Lion Warns

Zebras and Antelopes, Be Alert!
It's Dinnertime for This Lion Housemate

Like the Cat She Is, a Lioness Scratches Her Front Leg with Her Hind Paw

"Oh, Hum!" Arousing from a Nap, She Gives a Wide Unstudied Yawn

Every Day Is Circus Day at Lake Edward, Uganda, Where Elephants File Down to the Water to Drink and Bathe

[illegible]

Three Tons of Vicious Temper Are Black Rhinos. They Charge at the Least Provocation

Blue Wildebeests: Those Crossword-puzzle Gnus, Seem Made Up of Spare Parts from Many Animals

[illegible]

Alert Steenbok and Odd 'Spots' Are Pictures of Grace and Beauty—but How Long Will They Last?

[illegible]

Yawning Nostrils, Grunting, and Blowing Bubbles, Amphibious Hippos Laze in the Water During Daytime

[illegible]

Like Submarines Mother and Baby Hippo Surface for Air at Mzima Springs, Kenya, Where Water Gushes from Volcanic Rock

When Big Ears Wave Their Danger Signal, It's Time to Leave

[illegible]

But rhinos seldom run from; they charge at!

A short time later we found another in fairly open bush where photography seemed possible. The native guard and I circled to approach him against a light breeze. Rhinos are supposed to have keen smell and hearing, though their eyesight is poor (page 365).

When we were about 50 yards away, the guard snapped a branch and attracted the rhino's attention. Instantly the huge beast gave a loud snort and charged.

We withdrew—gracefully! After charging for a short distance, the rhino paused, still alert. Again the guard tapped a bush, and again the monster charged. We retreated.

Several times this performance was repeated. We reached the car where Teifel waited, ready to leave.

But I wanted another chance at a picture, sitting part way inside the car and using the open door as a brace for the camera. I snapped the shutter as Teifel whispered excitedly, "Mr. Moore, w-will you p-p-please close the door?"

I obliged! We wasted no time in leaving for the rhino was no more than ten yards away. Just how much good closing the door would have done had three tons of ill temper charged the car, Teifel couldn't say.

Black and White Rhinos

The common black rhinoceros (*Diceros bicornis*) is distributed fairly widely over the central and eastern portion of Africa. His larger cousin, the white rhinoceros (*Ceratotherium simum*), however, has become quite rare. There are a few in Hluhluwe and perhaps 150 in the near-by Umfolozi Reserve. Others roam in a comparatively small region north of Lake Albert where Uganda, Belgian Congo, and Anglo-Egyptian Sudan meet.

The white rhinoceros is certainly not white, but a dark gray. His main distinguishing feature from the black rhinoceros that I've met is square, rather than pointed.

Black rhinos feed on leaves and branches of bushes; the white graze on grass. White rhinos have apparently led a peaceful life throughout the ages, for they never try to conceal their presence; nor are they belligerent as are the others. They have even been found stupidly wandering through villages in broad daylight.

Westward from the Kilimanjaro and Meru district toward the Serengeti Plain in northern Tanganyika is one of the most striking natural game habitats to be found anywhere. It is Ngorongoro, an extinct volcanic crater on the edge of the Great Rift Valley escarpment.

As you mount the crater rim, you look down into a huge saucer, some 35 miles in circumference, in which is cupped a lake and lush green grazing lands. Some persons estimate that at least 100,000 wild animals live here—zebras, wildebeests, Grant and Thomson's gazelles, cheetahs, leopards, and lions.

In places its walls drop sharply toward the floor 1,500 to 2,000 feet below, but the old crater is still roughly 6,000 feet above sea level. Surrounding mountains rise 9,000 to 10,000 feet. And on their slopes is more game—elephants, buffaloes, rhinos, hartebeests, eland, oryx, and waterbuck. You feel almost as if you were wandering in a fanciful Lost World.

Hippopotamuses inhabit several near-by lakes. But if one wants to see hippos, I can think of no better place than the lakes and rivers of Uganda and over in the Belgian Congo.

Hippos Around Lake Edward

At Kisumu and Jinja on the shores of Lake Victoria I have seen them foraging on lawns, gardens, and golf courses at night. But over at Lake Edward, shared by Uganda and the Belgian Congo, I found so many that I almost questioned my own eyesight.

Driving near the edge of the lake, I saw a flock of pelicans on a small point of land jutting into the water and went over to it, hoping to get a photograph of the birds. As I got near, I heard unearthly grunts and strange bubbling noises.

I soon found the reason. The shallow water around the lake's edge was studded with innumerable hippos. Some yawned, others snorted and blew bubbles. Still others roused up to see what the disturbance was all about.

Some distance from shore two big hippos suddenly neared out of the water and charged at each other. As they hinged their huge open jaws met, and each seemed to try to get a chance to chomp down on the other.

But neither succeeded. With open jaws pressed against each other the hippos resorted to a test of endurance, like two evenly matched men gripping hands in an Indian wrestle.

Apparently as soon as one test was considered a draw, they would break apart and then lunge at each other again. But it was only play battle.

When two bull hippos really challenge each other, it is a serious fray which may mean death to one of the beasts, sometimes both. Such battles take place on land; and these are no mere test strength of jaws.

The animals rush each other (as instead

Huge Head, Bristly Mane, and Ugly Tusks—Beauty Only to Another Wart Hog!

[illegible]

of [illegible] head on, but the [illegible] and [illegible]. As [illegible] each [illegible] with his tusks [illegible] the [illegible] of his opponent. Sometimes one [illegible] driving his tusk into the opponent's [illegible] [illegible]. More [illegible] [illegible] a long [illegible] [illegible] [illegible].

I [illegible] [illegible] Uganda [illegible] [illegible] [illegible] [illegible]. [illegible] [illegible] [illegible] [illegible].

Most [illegible] [illegible] [illegible] [illegible] [illegible] the Uganda [illegible] of Lake Edward, Lake George, [illegible] Kazinga Channel.

[illegible] Lake Victoria [illegible] [illegible] Victoria Nile between Lake Albert and Murchison [illegible] pages 357-372.

[illegible] [illegible] [illegible].

How long does a hippo stay under water between breaths? At Mzima Springs [illegible] [illegible] [illegible] [illegible].

[illegible] Lake Edward. While [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the water. [illegible] [illegible]

backs and then decided to go for a bath.

Wading into the lake, they walked through the herds of hippos, but neither paid much attention to the other. When two elephants got frolicsome, however, and began a lively tussle accompanied by much splashing of water and loud clashing of tusks, the hippos all turned their heads in the direction of the disturbance.

Sitting in my car on the road after the elephants had finished their baths I waited to watch them start off to feed. They came directly toward us, browsing on the bushes as they moved forward.

As they came closer and the nearest ones were within 100 feet (I paced it off later), I glanced toward my driver, ebony-hued Lumbwa. Big beads of perspiration stood out on his face. It was hot in the car, but I didn't think it was quite that hot.

Just then the elephants turned away and crossed the road a short distance back of us.

"Were you getting frightened?" I asked Lumbwa as he wiped away the sweat.

"No," he said. And then apparently realizing the reason for my inquiry, he added "It's hot."

Spearing Elephants

As we drove on, he told me how as a young man living with his tribe in western Kenya he had speared two large elephants for the tusks and food.

"How do you go about spearing an elephant?" I asked.

"We sneak up among the elephants and hide behind trees. When we get close to one, we run out and spear him—spear him behind the front leg to hit his heart."

"Doesn't the elephant charge?"

"He runs this way, that way, every place and makes a loud noise. We get behind trees, and then run and stab him again. Pretty soon we kill him."

I decided Lumbwa wasn't frightened while I was trying to get pictures!

I have never yet sampled an elephant steak or a dish of hippo hump, so I cannot tell what it may taste like. But natives slaughter both elephants and hippopotamuses for food.

Crossing the Uganda border near Lake Edward, we entered Parc National Albert. This game reserve has an interesting link with the United States. It is called a national park because of our own use of the word "park" in connection with a reserve.

When King Albert of the Belgians visited the United States in 1919 he was impressed with Yellowstone National Park, and later took interest in the creation of this one in the Congo. Having an important bearing on its formation, too, was the effort of Carl Akeley, of the American Museum of Natural History, who wished a sanctuary created for the protection of the big mountain gorillas.*

Since its formation in 1925, Albert Park has had several important additions. It now embraces an area of some 4,000 square miles which extends 170 miles north to south and varies from 5 to 30 miles in width.

The Geography of Albert Park

Geographically, it is a remarkable region. Stretching across the Equator, it occupies much of the Great Rift Valley close from the northern shores of lovely Lake Kivu to just north of Ruwenzori, the "Mountains of the Moon." To the east and west it is walled in by the high precipitous scarps of the Rift which effectively act as a barrier to the migration of plants and animals.

Here is an almost perfect reserve within whose area lie tropical rain forests, high mountain forests, glaciers, grassy plains, rivers, [illegible] Lake Edward, and volcanoes both active and extinct.

As originally conceived, here was to be a scientific reserve where life would remain completely untouched. A well-equipped laboratory has been established in the center of the area where scientists may carry on their studies. The only protection that exists in Albert and in the other parks in the Congo is against man. Its chief human inhabitants are small members of Pygmies.

I did not trade into the mounts in bamboo thickets where several hundred of the gorillas live, but contented myself with watching the elephants, wild buffaloes, antelopes, and baboons, plus a pride of lions stalking some gazelles on the plains.

Nor did I see the okapi, that rare animal found only in the Ituri and Semliki forests. Few people have ever seen this shy nocturnal cousin of the giraffe. When its existence was discovered in 1900, scientists first thought it a species of zebra, because of its size and the horizontal stripes on its thighs and forelegs.

Among the wild animals of Africa the antelopes are the most common. More than 200 kinds are represented on the continent, and they range in size all the way from a large cow down to a young lamb. Among them are the eland, roan antelope, sable antelope,

* See, in the National [illegible] "Man's Closest Counterparts (Apes)," by William M. Mann, August, 1940, and "We Keep House on an Active Volcano," by Dr. Jean Verhoogen, October, [illegible]

Smuggle-marked Mouth Agape, a Big Crocodile Lazes in the Victoria Nile

Many of [illegible] The [illegible] banks and [illegible] Albert and Murchison Falls [illegible] Lake [illegible]

[illegible] wildebeest, hartebeest, tessebe, inyala kudu, situtunga, waterbuck, klipspringer, [illegible] dikdik [illegible]

Some of the antelopes look [illegible] others are as delicate and graceful as a petite ballerina. Still others look as if they had been made up of a patchwork of parts left over from Creation!

Certainly the common blue wildebeest, also known as brindled gnu (*Connochaetes taurinus*), could not be called handsome. His head and horns are suggestive of a buffalo; his shoulders are high, but he slopes away to his haunches; and his rear parts and tail look as if they were a confusion between those of a horse and a cow. Kenya has a similar, but white-bearded gnu (pages 355, 370).

Perhaps the wildebeest only puts himself into a bad contrast by associating with the clean-cut black- and white-striped zebras, for both are often found traveling and feeding together.

The white-tailed gnu, or black wildebeest (*Connochaetes gnou*), is scarcely more beautiful. He has a white tail and white [illegible] Unlike the brindled gnu, which is found [illegible] over the country, this beast is almost [illegible] There are perhaps 300 left in South Africa. A few are kept in a field close to the Rhodes Memorial in Capetown.

The Hartebeest Wins No Beauty Prize

In the category of animals that will not win beauty prizes is *Alcephalus buselaphus cokei*, Coke's hartebeest, or kongoni, found widely on the African plains.

Its face is its misfortune. It has an unusually long thin face with a cowlike muzzle and foot-and-a-half-long upswept curving horns that seem attached as an afterthought. He rears straight out and from a distance appears like an extra unrelated part of [illegible] Like several of the other antelopes, [illegible] bee-t's back slopes away from [illegible] shoulders.

Close kin to the hartebeest is the chocolate-colored tessebe, or sassaby (*Damaliscus lunatus*). In fact, he is sometimes known as the mustard hartebeest. Despite his octopus-like name and unsainly appearance, the tessebe is the fleetest of the antelopes.

Far more regal are the eland, sable and roan antelopes, kudu, nyala, and other large antelopes.

Giant Eland Is Richly Marked

In northern Uganda one day a friend called my attention to two eland. At first I thought that they were common eland until he pointed out their richer markings, white lacy stripes and the black on their necks. Here was the giant eland (*Taurotragus derbianus*), largest of all the antelope.

The common eland (*Taurotragus oryx*), is only slightly smaller. One of the finest herds of these big fawn-colored beasts I ever saw was a group of about 60 that had wandered into an abandoned sisal field near Lake Naivasha in Kenya. They were a striking sight as they raised their heads to watch me for a few moments before trotting away.

Both bulls and cows have straight spirally twisted horns. Odds, the cows have longer, though somewhat more slender, horns than the bulls.

When it comes to horns, I think those of the beautiful sable antelope (*Hippotragus niger*) are more spectacular. They sweep back from his black-and-white-striped face like two big scimitars. Record length of horns from a giant sable bull in Angola is 61 inches.

Against prying lions these animals use their sabre horns with deadly effect. A ranger in South Africa told me he had seen a cow impale a lion on her horns when she had been attacked.

Bigger and more heavily built than the sable antelope, but with somewhat shorter horns, is the roan antelope (*Hippotragus equinus*). He has a grayish roan body, black-stockinged legs, and dark face with white splotches. Fleet, well proportioned, he is a magnificent beast in action.

In Tanganyika and in South Africa I saw many greater kudus (*Strepsiceros strepsiceros*). The bulls are impressive with their huge corkscrew horns and white vertical stripes on their brown hide.

Seeing them standing in the open, you wonder how these bulls succeed in maneuvering their majestic horns through the thickets. When escaping they tilt their horns back against their withers and slip out of sight like quicksilver. The cows are marked similarly to the bulls, but have no horns.

"If you think a kudu bull is a fine beast, wait until you have seen an nyala," said a game warden in South Africa. The name is also spelled nyala.

I waited. In fact, I spent several days in a district in Zululand where there were nyalas (*Tragelaphus angasii*), but saw no bulls. We came upon several chestnut-colored females, which appear much like kudu cows, except that they are smaller and have more white stripes on their horns.

I had almost given up seeing one of the bulls when returning to camp one evening we rounded a curve and came upon a splendid old veteran standing in the middle of the path.

His spiral-horned head was held high, a white chevron marked his face in front of his eyes. Black shaggy hair covered his neck and belly. A black and white fringe of hair extended along the entire ridge of his back. On his gray sides were 13 indistinct vertical stripes.

Although supposedly one of the shyest bush animals, he stood for several moments until his curiosity—and ours—was well satisfied, and then plunged into a thicket.

The Situtunga—"an Inyala on Water Skis"

Skirting a papyrus swamp in southern Uganda just after sunset one day, I got a quick glimpse of an even more rarely seen antelope, the situtunga (*Limnotragus spekei*), first cousin of the kudu and nyala.

Sometimes called the water kudu, he might well be described as an inyala on water skis, for his hoofs are greatly elongated. With them he is adapted for the semiaquatic life he leads in the marshy lands of reeds and papyrus swamps. Slightly larger than the inyala, he has similar face markings but fainter body stripes than the kudu or inyala.

Different in appearance from most of the other members of the antelope family is the waterbuck (*Kobus ellipsiprymnus*). Thickset, these shaggy gray-coated animals stand four feet or more at the shoulders and are beautifully proportioned.

There is no mistaking them if you see them from the rear. On the rump is a conspicuous elliptical band of white which looks as if the buck had accidentally backed into a freshly whitewashed ring.

The bulls have large sweeping horns shaped like a rounded V, which slope back and then turn forward and inward at the tips. Usually you find one male posing regally amid a harem of hornless, less pretentious females. At times I came upon small groups of young bulls feeding by themselves.

One of the most plentiful and certainly one of the most graceful of the antelopes I saw in Africa was the impala, or palla (*Aepyceros melampus*). We saw thousands of these sleek, graceful animals, which reminded me of small deer or large gazelles. Some herds numbered a hundred or more (pages 360, 361).

These small, lissome antelopes have glossy reddish-brown coats shading to white on their bellies. The rams have fine long lyrate-shaped horns, which they seem to delight tangling with playful opponents in mock battles (page 354). Both sexes have a characteristic narrow black stripe diagonally marking each side of the rump.

On occasions when we surprised a herd of impalas they seemed almost to take to the air to escape. Their long graceful leaps are amazing.

A ranger in South Africa with whom I talked had measured three successive leaps of one animal which spanned 26, 16, and 26 feet!

Babes of the antelope tribe are the tiny dik-dik, duiker, and the steenbok. They range in height from 12 inches to perhaps 24 inches at the shoulder and are remarkably well-proportioned and alert.

The little steenbok, or steinbok (*Raphicerus campestris*), particularly seems not to have grown up to his wide sensitive ears (page 371). Come upon one on the trail and he's off like a frightened hare. Often, however, when a hundred yards away he stops quickly to look back. His senses and leg muscles are trigger-strained for instant action if danger still threatens.

All these small animals travel separately, except during mating season when they are occasionally seen in pairs.

Giraffes—Skyscrapers of the Animals

Of all the beasts that roam the African bush I think I would award the giraffe first prize as a color photographic subject. These tallest of living animals seem born posers. They group themselves with long necks turned in the same direction, or they face each other so symmetrically that you feel they are trying to form a triumphal arch (page 356).

When moving they are hardly graceful. They walk with jerky, stilted steps. Breaking into a run, they move their legs in lateral pairs like a pacing horse and their necks bob and sway, while their tails curl and twist like a propeller. Although seemingly ungainly in full retreat, they move rapidly and have been clocked at 35 miles an hour.

Some of the old bulls are marked with deep chocolate-brown blotches with pale yellowish-white interspaces. Most of the cows and younger bulls have chestnut-colored patches; a few are distinctly spotted blonds.

The patterns on most giraffes, though irregular, have distinct even edges. But some have reticulated feather-edge patterns which look almost as if the animals had become sunburned while standing among fronds of ferns.

The Buffalo Is a Bad Actor

Among Africa's wild beasts the buffalo has perhaps the worst reputation as a bad actor. Elephants, lions, tigers, and even leopards usually leave man alone unless cornered or feel their young are in danger. Black rhinos usually charge. But the behavior of buffaloes is unpredictable.

They may look at man with sleepy-eyed nonchalance, turn and stampede if frightened, or charge with vicious fury.

Seeing a herd of some 25 buffaloes grazing on a grassy hillside one day, I took off in company with a native for a copse of trees toward which the animals were moving. By using the crouching trees as a natural blind I thought I might succeed in getting a photograph.

As we reached the edge of the crescent-shaped wooded area, I could just see the backs of the herd on the hill. I was about to seek an opening through the trees when a stir in the bush attracted my attention; I found myself staring point-blank into the faces of another herd resting in the shade!

Suddenly the whole bush erupted. There were loud snorts, a crash of branches, and a wild stampede. Out rushed 25 buffaloes, followed by seven others. Fortunately they fled away from us; otherwise I might not have roamed more of Africa's untouched zoos.

Notice of change of address for your NATIONAL GEOGRAPHIC MAGAZINE *should be received at the offices of the National Geographic Society by the first of the month to affect the following month's issue. For instance, if you desire the address changed for your May number, the Society should be notified of your new address not later than April first. Be sure to indicate your postal-zone number.*

Dropping Her Nose into Junk Wave Off Hebe on a Choppy Sea Off Hong Kong

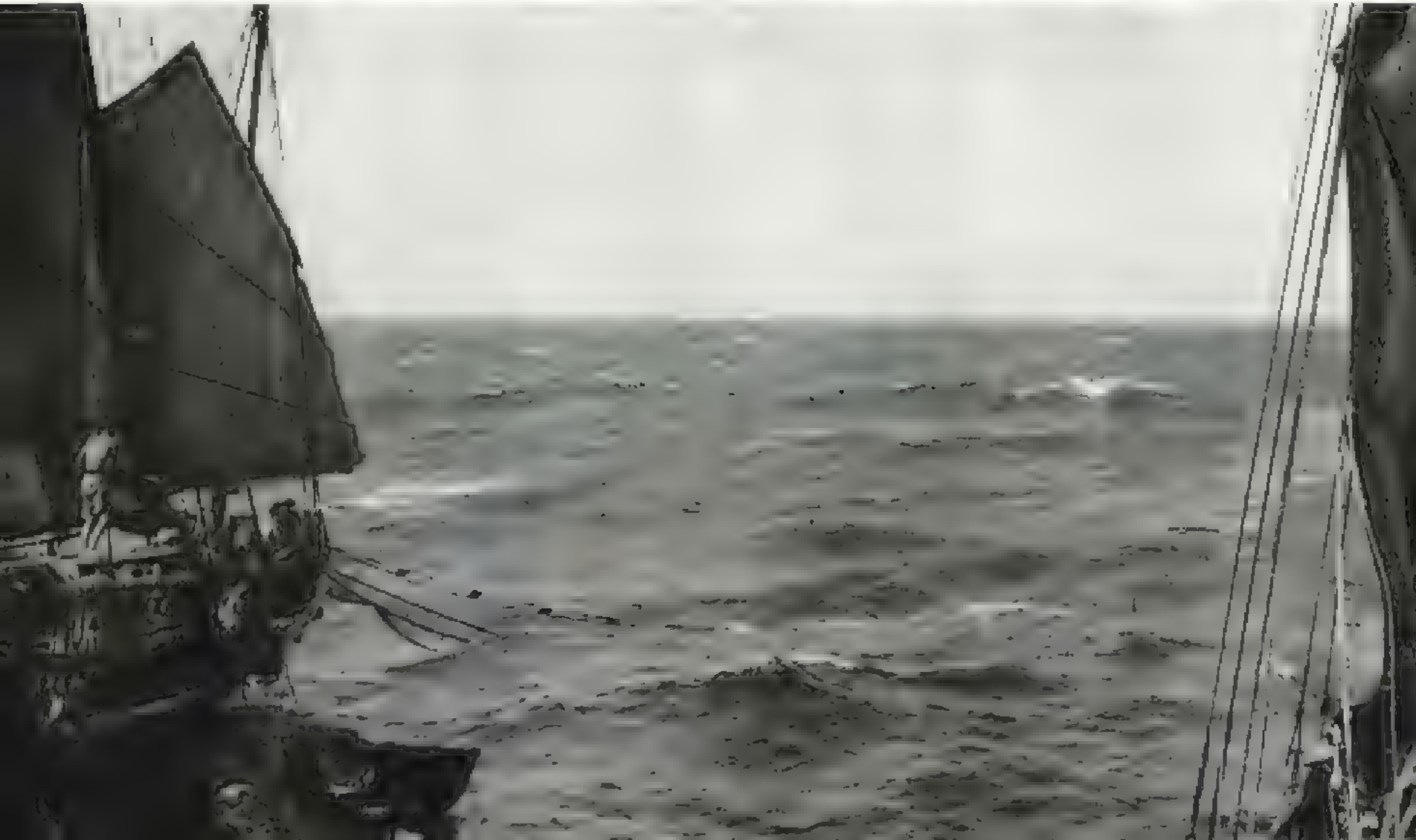
Hong Kong: Britain's Last Stand On China

Hong Kong Water Folk Live on the World. Eat, Sleep and Die on Floating Villages. Legend Says Since Never Touch Shore

Three-masted Fishing Junks Spread Sails Ribbed Like Fulcrums [illegible] Set Out to Sea Through Aberdeen Channel

[illegible]

Ming Lee (left) and *Kuang Chun* Working as a Team Pull the Trawl Nets Have Dragged All Day



Crewmen, Taking a Time from Their Travel, Rest on Paddles in a Choppy Sea

[illegible]

Sailors, Young Lovers and Poet Ride a Windlass with All These Weight

Women of the Trawler Are Wound on the Capstan Drumhead

Restaurant-barge Pirates Select Their Dinners Not from Menus But from Fish Baskets

Partners Move In Close. The Trawl Line Flashes Like a Fusso From Deck to Deck

[illegible]

Dripping Glow of Fish Shower the Deck

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Pair of the Day's Catch Is Preserved in Salt

[illegible]

Babies Are Cabbageless: No Men Can Stand Up

[illegible]

Women Cook and Feed; Men That Is on Deck

A Powerful Armament for Peace: the United States Heavy Cruiser *Los Angeles* in Hong Kong's Busy Harbor

Drying Fish Stretch Across Fields Like Hay in Windrows on the Island of Aphuban

The National Geographic's New Map of Africa

"ALWAYS something new out of Africa," wrote the Roman scholar Pliny the Elder nearly 1,900 years ago.

This time the "something new" is a map of Africa's ancient face in the light of new explorations and political changes.

Pliny wrote of winged horses and unicorns, but the old Roman would find even more amazing the airports, oil pipe lines, railroads, and cities shown on the map, "Africa and the Arabian Peninsula," which goes to the National Geographic Society's 1,950,000 members as a supplement to this March issue of her MAGAZINE.*

Near East Nations Included

The new National Geographic map gives the 1950 picture of the world's second largest continent.

Centered on Africa's tremendous continental mass, the 28½ by 31½-inch sheet covers also all of the Mediterranean countries and waters. All the nations of the Near East are included, together with Russia's oil rich Caucasus and Iran (Persia).

On this map appears the entire Arabian Peninsula. New detail has been added by airplanes flying over that old Arab land where American oil men work with the King of Saudi Arabia to tap its vast hoard of petroleum.

Madagascar, Madeira, the Canary Islands, and the most eastern of the Azores fall within the limits of the map. An inset shows the Cape Verde Islands.

An added feature is a physical map of Africa, showing altitudes and also the Great Rift Valley, created by mighty earth movements in the geological past.

Libya to Be an Independent State

This latest in the series of large ten-color maps distributed with the NATIONAL GEOGRAPHIC MAGAZINE represents months of work by The Society's cartographers. It includes the results of aerial and ground surveys made by many countries during and since World War II and reflects the political changes which have taken place in Africa since February, 1943, when The Society last mapped the continent.

At that time Allied forces were winning the Battle of Africa preparatory to the invasion of Italy.

Now Libya, pride of Mussolini's Italy, is to be granted independence by a resolution of the General Assembly of the United Nations. It is to be organized as a sovereign state, comprising Cyrenaica, Tripolitania, and Fezzan, as soon as its people can convene a national assembly and agree upon a constitution and form of government, not later than January 1, 1952.

The United Nations has recommended that Italian Somaliland (Somalia) shall also become an independent state, but not until after a 10-year period under Italian trusteeship.

Ethiopia has announced its refusal to recognize the U. N. decision giving Italy this 10-year tenure. The Italians have asked the international body for permission to build military bases in Somaliland.

Decision upon Eritrea, also formerly Italian, has been deferred until an international commission recommends a solution. Meanwhile it remains under British military occupation. Early this year Britain sent a warship and troops to stop "repeated acts of murder and violence" against Italians in Eritrea.

U. N. Trusteeships Replace League Mandates

United Nations trusteeships have replaced League of Nations mandates over three of the four African colonies that were lost by Germany as a result of World War I, but the same powers still govern them.

Great Britain administers most of former German East Africa as Tanganyika Territory. The remainder, the Ruanda-Urundi area, is under the Belgians, who have united it administratively with the Belgian Congo.

The French were entrusted with the larger share of Germany's Cameroons and have made their portion an autonomous territory. The British section, marked by a pink dashed boundary on the map, is attached to Nigeria for administration.

Germany's Togo also was divided between the British and French. Pink dashes mark off the British area, which is attached to the Gold Coast for administration. The French have [illegible]

[illegible] West Africa [illegible] governed by the Union of South Africa in the spirit of the old League of Nations mandate.

New provincial boundaries are shown in the Anglo-Egyptian Sudan, a condominium administered by the British and Egyptians.

* Members may obtain additional copies of the map of Africa and the Arabian Peninsula (and of all standard maps published by The Society) by writing to the National Geographic Society, Washington 6, D. C. Prices, in United States and Possessions, 50¢ each on paper; $1 on linen; India, [illegible] Outside United States and Possessions, 75¢ on paper, $1.25 on linen; India, [illegible]. All remittances payable in U. S. funds. Postage prepaid.

As fixed by treaty, the border between Egypt and the Sudan follows the 22d parallel, but for ease of administration a boundary more in accordance with topography has been agreed upon—the one marked out and tinted on this map.

Spain's possessions on the Atlantic at the Equator are known as Spanish Guinea, but these bits of land are so scattered that use of this general name on the map was impractical. Each constituent of Spanish Guinea is named—the islands of Annobón, Corisco, Elobeys, Fernando Poo, and the mainland colony of Río Muni.

Farther north at the Tropic of Cancer Spain's mainland possessions are grouped under Spanish Sahara. Most of Spanish Morocco and Southern Morocco are held by Spain as a protectorate.

On the map the purple of France covers the largest area, with the pink of the British Commonwealth second. Yellow is used for the former Italian colonies and for the vast Belgian Congo. Green designates Portuguese possessions, while orange distinguishes those of Spain and also the Anglo-Egyptian Sudan.

Only Three Countries Are Independent

Brown coloring marks independent countries not associated with colonial empires. In all Africa there are only three—Egypt, Ethiopia, and Liberia, though Libya will make a fourth. These three comprise only about one-fifteenth of Africa.

Here is how the continent is divided among European powers and African countries.

	Area in Sq. Miles	Population
French Africa	[illegible]	[illegible]
British Africa	[illegible]	[illegible]
Belgian Africa	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Spanish Africa	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	601,000
Somalia (Italian Somaliland)	[illegible]	[illegible]
Tangier (Int. Zone)	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible] and [illegible] on [illegible] the Suez Canal, the area and population of the Sinai Peninsula are not included in the Egypt totals. Similarly, the island of Madagascar, which is politically but not physically part of French Africa, is not included in the totals.

[illegible] areas of Africa, ancient rocks rich in minerals lie at or near the surface and provide some of the world's greatest mining centers.

About half of all the earth's known uranium ore lies in the Belgian Congo. In the fabulous mine of Shinkolobwe, 70 miles northwest of Elisabethville. This deposit was discovered in 1915 and has long been known to scientists working with radioactive minerals.

With the coming of war and the drawing of a curtain of secrecy around the whole field of radioactivity, the name of Shinkolobwe was dropped from maps. It is now so well known that secrecy has been lifted. Shinkolobwe [illegible] at N-12 on this map.

Here in a vast hole steam shovels gouge out the incredibly rich ore in one of the most inaccessible spots in the world. Shinkolobwe lies just halfway between the Atlantic and Indian Oceans, 8,000 miles from the United States, which has absorbed most of its output of uranium and other radioactive minerals. At present the partially refined ore is sh[illegible] across Portuguese Angola to the port of Lobito.

One of the leading copper-producing areas of the world is the Katanga district of the Belgian Congo and its extension into Northern Rhodesia.

The Transvaal district around Johannesburg leads the world in production of gold, and vies with the Belgian Congo for the number one spot in diamonds. Now a diamond find in Tanganyika is yielding sparkling results (page 354).

The northeast corner of this map covers one of the world's greatest reserves of petroleum. Some 88 percent of all the oil produced in the Eastern Hemisphere, or about one-fourth of the total world production, comes from this area.

Near the border of the map lie Russia's oil fields in the Baku, Grozny, and Maikop areas, and the Rumanian fields at Ploesti. Farther south, in Iraq, is the great oil region around Mosul and Kirkuk, and in Iran are the many rich wells which supply the Abadan refinery.

Thousand-mile Pipe Line Conquering Desert

In Saudi Arabia lie the vast oil fields near Bahrein which are being brought into large-scale production. Egypt is developing smaller fields on the Gulf of Suez.

The Burgan field in Kuwait has proved to be one of the biggest petroleum finds in history. In 30 months its output has been developed from 43,000 barrels a day to 250,000 barrels, with an estimated reserve of 10 billion barrels. A modern city, a large refinery, and the world's largest oil-loading pier have been built there.

In Arabia one of the greatest engineering projects ever undertaken is nearing completion

line—the 1,067-mile-long trans-Arabian pipe line, or "tapline," as oil men call it, from the Abqaiq oil fields to the Mediterranean.

Ten thousand miles from their source of supplies in the United States, engineers of the Arabian American Oil Company faced a thousand miles of trackless, waterless, uninhabited desert. With no port for unloading ships, they had the problem of laying here the biggest pipe line ever built for oil transportation, complete with all the intricate machinery needed for pumping stations and terminals.

To save shipping space, the pipe was made in alternating 31- and 30-inch diameters so one section would fit inside another. To form the 31-foot sections, 270,000 tons of steel were used.

Hay, almost unknown Ras al Mishab was selected as an unloading point, and a three-mile aerial tramway was built out over the shallow water to reach the ships. The carriages on this "sky hook" can carry ten tons to the load.

For hauling 50-ton loads of pipe across trackless desert, a special truck trailer was designed. After thorough tests in Arizona's desert, 150 of these monsters were ordered.

When unloaded from the ships, the pipe is welded into three-section units 93 feet long. Each huge truck with its dollies carries nine or ten of these over the desert.

In all, 1,500 transportation units were moved to the job. They included 120 10-ton trucks, 80 refrigerator trucks, 60 tank trucks for fuel and water, ten 60-passenger trailers, and four 60-passenger buses, in addition to the many bulldozers, tractors, and other heavy machines used for excavating and laying the line.

New Desert Towns Created

Six pumping stations are being built along the route, each planned as a stable community of some 20 American families and 200 or more Arab family groups. At each station, wells ranging in depth from 250 to 1,000 feet are being dug and 250,000-gallon water storage facilities are being provided for American personnel and for the Arabs and their flocks.

These stations are shown on the map and will undoubtedly become the metropolitan centers of this desert region.

Between the major stations lie five intermediate posts where wells and 10,000-gallon water storage facilities are provided.

Planned for completion by the beginning of 1951, the line will take 4,972,000 barrels of oil just to fill the pipe, with another 2,000,000 barrels in reserve for use at the stations and terminals.

Thus nearly 7,000,000 barrels will be required at all times just to keep the line in use. That is more than three times as much oil as the whole Eastern Hemisphere produced in a day in 1948. The entire world now produces only about nine and a half million barrels a day.

Once in operation, this line will deliver about 300,000 barrels a day at Sidon, on the Lebanon coast. This amount is more than twice as much as Europe (without Russia) produces in a day, and it equals about half of Russia's daily production.

New Now Railways; Roads Deceptive

Little railroad building has taken place in Africa since World War II. In southern Tanganyika a new railroad runs inland from Lindi and Mtwara as part of Great Britain's peanut-producing enterprise (page 434).

A 400-mile railroad financed by oil royalties is being built by American engineers from the Persian Gulf oil port of Dammam west across the Saudi Arabian desert to Riyadh, the inland capital.

Red lines on the map show roads, but most of them are bad and are completely impassable during the rainy season. Around Lake Chad the roads are submerged for several months each year. Motor transport now crosses the Sahara, but in specially equipped vehicles. One does not tour the desert in the family car.

There are really two Africas. Mediterranean Africa, closely allied to Europe, and one-isolated southern Africa, south of the Sahara.

[illegible] the days of ancient Egypt, Greece [illegible] and Rome, North Africa's history, economics, and politics have been interwoven with the unfolding fabric of Western civilization. Even the World War II penetration of Europe's [illegible] "underbelly" from Africa was partly repeating itself. More than 2,000 years before, the armies of African Carthage invaded Spain and Roman Italy.

In Mediterranean Africa, desert dictates where people can live. Though African Egypt contains 362,400 square miles, virtually all of its 19,045,000 people live on 13,500 square miles—the Nile Valley, Delta, and a few oases.

South of the Mediterranean fringe, a broad band of desert, covering some 15 degrees of latitude, long blocked European travel into southern Africa even more thoroughly than the Atlantic Ocean once isolated America from Europe.

Here in Africa's deep south, many Negro cultures grew in isolation from the rest of the world for unknown thousands of years.

Anthropologists probing the history of man

have made important finds in South Africa, some of the most recent have been made by Dr. Robert Broom, curator of vertebrate paleontology and physical anthropology at the Transvaal Museum, Pretoria, South Africa.

Recently Dr. Broom's assistant, J. T. Robinson, discovered at Swartkrans, northwest of Johannesburg in the Transvaal, the huge lower jaw of a primitive apelike creature, apparently a giant, known as Swartkrans Man. In the same area Dr. Broom and anthropologist Raymond A. Dart, of Johannesburg, have discovered remains of ape men which were undersized compared with modern man. Apparently Nature was experimenting with these early man-like creatures in South Africa.

Rift Valley Cradles Seas and Lakes

As the map and the physical geography inset show, most of Africa is a vast, comparatively flat plateau. The continent has its mountains, including snow-capped peaks—Kenya and Ruwenzori—almost squarely on the Equator, but great mountain systems such as those found in Eurasia and the Americas are missing.

One remarkable feature unmatched in the world is Africa's Great Rift Valley. This gigantic crack in the earth's surface extends from northern Syria to south of the Tropic of Capricorn. Its northern portion cradles the Jordan Valley, the Dead Sea, Gulf of 'Aqaba, and Red Sea.

Further south the Rift Valley contains the chain of small lakes in Ethiopia ending in Lake Rudolf, and a similar chain continues down through Kenya and Tanganyika to Lake Nyasa and the Valley of the Shire River.

Northwest of Lake Nyasa the western section of the Rift holds the great lakes called Tanganyika, Kivu, Edward, and Albert. Next to Lake Baikal in southern Siberia, Tanganyika is the deepest lake in the world, with a sounding of 4,708 feet.

Comparatively shallow is Africa's largest lake, Victoria. Third largest in the world, it is surpassed in size only by the Caspian Sea—classed as a lake—and by Lake Superior. It is held in a cup formed by the high rims uptilted on the edges of the branching Rift Valley. Here the British plan to build a huge dam (page 327).

New National Geographic Projection Used

The Africa map is drawn on a new projection, the Chamberlin Trimetric, invented by National Geographic Cartographer Wellman Chamberlin.

Mr. Chamberlin's notable contribution to the centuries-old science of map making has been used previously in the National Geographic maps of Canada, Alaska, and Greenland (June, 1947), Australia (March, 1948), and Europe and the Near East (June, 1949). It is now applied to Africa for the first time.

This simple, ingenious projection is well suited to Africa, because the shape of the continent, with the Arabian Peninsula, is roughly triangular, conforming well to the great triangle which forms the basis of the Chamberlin Trimetric Projection.

The new projection shows the entire continent with much less scale variation and distortion than any other projection tested for this map. The necessary distortion involved in showing a part of the round earth on a flat sheet is more evenly distributed than would be possible with any of the conventional projections generally used for Africa.*

Recent Surveys Yield New Data

Since the beginning of World War II, most of Africa has been newly mapped. Large areas were covered by aerial survey, and the principal political units made up-to-date maps of their territories. An example is the new Portuguese Colonial Atlas. The National Geographic cartographers have made a complete collection of all new base material, and the results are reflected in this map.

Many new place names appear. In Liberia, for instance, a new compilation has resulted in numerous changes in spelling, and place names have been added.

Each of the 7,179 place names conforms to the latest authoritative spelling. As in all National Geographic maps, they are composed of hand-drawn letters of patented design.

Ten colors have been used by the cartographers to show the political boundaries, transportation lines, and physical features.

Even in the depths of Africa the National Geographic Society has many members. The number of NATIONAL GEOGRAPHIC MAGAZINES mailed to Africa was 11,993 at latest count.

Most of these go to members in the Union of South Africa, the British protectorates, and the Belgian Congo; the rest to 30 other African countries or political subdivisions. Some reach their final destinations in the hands of native runners traveling African trails and rivers.

* See *The Round Earth on Flat Paper*, by Wellman Chamberlin. This is a fascinating description of how maps are made and of the projections used by cartographers. It is illustrated with 1,500 pictures from drawings by Charles E. Riddiford, photographs, and maps. Copies may be had from the National Geographic Society, Washington 6, D. C., upon remittance of 50 cents each in U. S. funds.

GENERAL OF THE AIR FORCE H. H. ARNOLD 1886–1950

WITH [illegible]

Wildlife in and near the Valley of the Moon

By General of the Air Force H. H. Arnold (Retired)

With Illustrations from Photographs by Paul J. Fair

On our Ranch near the Valley of the Moon we have a few tame geese.* One morning our largest gander made his appearance looking as if he were about to die. He had a hole in his breast large enough to hold a baseball.

The old fellow weighed about 15 pounds, and had had the courage, on more than one occasion, to tackle a whiteface bull. Strange to say, he usually won by hanging on the bull's tongue, cheek, or ear.

He had never hesitated to attack any person who came along; so, naturally, when we saw him mortally wounded (as we thought) we were at a loss to figure out just what kind of animal his assailant could have been. In any event, we did not see how the old gander could possibly live.

We set a trap near the barn, and caught a coon (page 404). He was a monster. He had to be, to do such things to that gander.

Remarkable as it may seem, the gander survived, and is still alive today—the father of 18 geese! True, he walks lopsided, with one side of his breast sticking out like the misplaced prow of a ship; but he still gets around (page 402).

Foxes and skunks are far too plentiful. We catch them in traps, and shoot them on sight. Sometimes, when skunks come out from under the barn and are trapped, they must be killed, which makes things unpleasant for a while; but time is a cure for most ills.

Deer Appear in Evening

Normally, a number of deer may be seen every evening on the hillside across from our house (page 405).

For three years we have been rather proud of a large buck which bedded down within 50 yards of our house (page 405). During deer season this year we noticed a large number of buzzards circling a clump of oaks a short distance away.

We investigated. There were the remains of our buck. He had been shot through the neck by someone on an adjoining ranch, and had come home to die.

We encourage birds to come to our place by providing cover and bird baths, and by installing self-feeding, California type feed bins. The birds can always get their fill.

The feeding platform is only about 12 inches by 8 inches, yet we have seen as many as ten fully grown quail crowding in that small space to feed.

Other birds, almost too numerous to mention, come and go at will, to and from the feed bins. During the migrating period, a perfect stream of visitors does the seemingly impossible by emptying the feed bins. We have counted 40 different species of birds on the ranch during a year.

Even our small stream and pond attract ducks in the rainy season. It is not an uncommon sight to see a pair of pintails or mallards come shooting down through the low clouds, sweep over the hills, and land with a splash in the pool.

Hummingbirds "Like Fighter Planes"

When we are sitting on the terrace in the summer, hummingbirds dart by our heads like fighter planes. The nuthatches always cause comment from visitors when they hang, head down, and eat grain from the feeding platforms. Oregon Juncos seem to be with us always.

We do not have any common English sparrows, but, instead, we have the western lark and fox and Lincoln sparrows. The house finch (linnet) builds nests in the vines alongside the house. The large western red-tail hawks build their nests in the high trees near by.

Because of the tremendous increase in population in the State, much has had to be done to preserve our wildlife. Some types, such as deer, ducks, and geese, increase in population in spite of hunters because of the protection afforded by hunting regulations (pages 406, 407, and 410). Elk, once almost extinct, are gradually increasing in numbers at the reservation.

Although the natural terrain, not only in and near the Valley of the Moon but throughout almost the entire State, is well suited to the California quail, even that bird was threatened with extinction. Now, having received a bit of help to stage a comeback, they are returning in a big way (page 412).

Great credit for the recent increase in quail must be given to the "gallinaceous guzzler," a product of the imagination of Ben Glading of the Fish and Game Commission.

* See "My Life in the Valley of the Moon," by General H. H. Arnold, National Geographic Magazine, December, 1949.

Air Force General Arnold's Grandson Survived a Raccoon Attack, Still Rides the Ranch

[illegible]

Velvet Antlers Shimmering in the Sunset, a Handsome Buck Stands Lookout

[illegible]

[illegible]

The Uses of the "Grazzler"

[illegible]

Here the bucks [illegible] to the water level [illegible]. Now the [illegible] to the water [illegible] Indian. These water [illegible]

[illegible]

[illegible]

[illegible]

A Hungry Little Beggar Performs: the Sparrow Hawk Just Can't Relax

Caught in the Act! A Raccoon Whirls, Surprised by the Photo Flash

* Equipped with Field Glasses and Patience, General Arnold Enjoys Rich Rewards

* A Black-tailed Doe and Her Fawn Graze in the Early Morning Sunlight

Black-tipped Wings Beat Furiously as a Flock of 800 Lesser Snow Geese Zooms Earthward

[illegible]

A Deafening Babble of Harsh Cries Resounds Across the Hills in the Sacramento Valley

[illegible]

The "Californiacous Guzzler," a Concrete Watershed Fenced by Barbed Wire, Is Helping to Bring Oil Back to California

[illegible]

"Last Line [6-29-]" Sand Geese in Arrival as Lines Whistling Swans Spread Overhead

A Band of Cackling Geese Heads for the Marshes to Take Cover in the Approaching Storm

Like Floating Fur Babies, 30 Rare Sea Otters Doll on Their Backs along the Pacific Shore

Despite Its Mousemaker Dose, This Mallee Quail Is Very Much Alive

Canvasbacks and Lesser Scaups Swarm over San Francisco Bay on a Crisp Winter Day

[illegible]

kind, both four-footed and feathered, that had scarcely known the meaning of death. Canyon and mountain-side gave shelter to the panther and grizzly bear. The vista was variegated with flowers of richest perfume . . . the chorus of gorgeously-plumaged songsters . . . . It became a relief to watch for the obstruction of the path by an infuriated bear, or gaze in expectation of the rapid stampede of a drove of elk or deer."

Indians Were the First Nudists

Before the advent of the white man, the Indians, the first nudists in the United States (and we still have a colony here in the Valley of the Moon), used their bows and arrows for killing small game.

They captured elk, deer, and antelope by snaring them. Now and then they would kill larger animals with their weapons, but there is no authentic instance in which a Sonoma Valley Indian ever killed a grizzly with a bow and arrow.

The redskin had a world of respect for the prowess of this ferocious animal, and seldom troubled it.

The early cattle were different, however. On numerous occasions they returned after battle with bears, more or less severely lacerated, their horns covered with blood, proving that, in fights in the hills, bruin had not escaped unscathed.

Apparently, there was game of almost every kind available for food or pelts, in the Sonoma area. As a matter of fact, the only animals missing from the "Who's Who" of the animal kingdom in the United States seem to have been mountain sheep, bison, and opossum.

Sonoma had three kinds of bear, as well as elk, deer, antelope, panther, wildcat, wolf and coyote, fox, badger and raccoon, weasel, porcupine, squirrel and rabbit, beaver, seal, and otter.

There were 19 species of hawks; owls, woodpeckers, hummingbirds, flycatchers, pigeons, doves, grouse; three kinds of quail; five kinds of geese; ducks; wild swans; many songbirds; and migrants of all kinds.

A Natural Zoo

The Valley of the Moon might well have been classified as a natural zoo.

Just what type of country is this region which attracted, and still attracts, so many kinds of animals and birds?

It has mountains and well-watered valleys; woods, and arid low grounds that are somewhat like the desert in character; seacoast and thickly forested areas of dense redwood stands. And then there are the extensive lands of the prairie type.

Nature, apparently, did its best to provide cover and food to attract animals and birds, and man, since his arrival, has done his best to destroy the wildlife.

Just take a look at the score.

Between 1803 and 1806 over 7,000 otter skins were shipped from this area of the California coast. In 1808 one ship sailed with 130,000 seal and otter skins, worth about $90 each. In 1810 another ship sailed from the Sonoma shores with skins of 240 beaver, 150 otter, 58 mink, 21 coon, 11 muskrat, 4 badger, 6 wildcat, 5 fox, 5 gray squirrel, and 1 skunk.

Why the skipper of the ship wanted the skunk skin, history does not say.

The Sonoma country certainly was a hunters' paradise; but there is an end to all good things.

When the Americans came to the Valley, game animals were slaughtered in large numbers. For more than a quarter of a century market hunters made regular trips from Sonoma to San Francisco in whaleboats carrying elk, deer, antelope, quail, geese, ducks, and rabbits.

Prices in the San Francisco market in the 1850's were:

Large deer or antelope	$20
Hindquarter of elk	4
1 goose or quail	2
1 doz. ducks . . .	10 to $12

Sea Otter Returns

However, in spite of the encroachment of the farmers and ranchers on the game areas, and the killings by hunters, the game managed to struggle along, so that, today, we still find game in large numbers in our Valley in areas checkerboarded with residences and homes.

It is true that the sea otter disappeared completely for a period of almost 20 years, and was thought to be extinct. Then, in one of those mysterious ways that Nature has, it [illegible]. It came back in small numbers, but the herds are gaining strength each year (page 411).

The elk no longer roam our countryside, but we have them in areas restricted from shooting. The bears are gone, probably forever, along with the mountain lion or panther; but one is still surprised at the many kinds of birds and animals we do have.

Give a man the Sonoma area to wander over, a pair of field glasses and a camera, a little patience and a few hours of leisure time and he may discover wildlife that will surprise him.

NATIONAL GEOGRAPHIC SOCIETY

GEOGRAPHIC ADMINISTRATION BUILDING
SIXTEENTH AND M STREETS NORTHWEST, WASHINGTON 6, D. C.

ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

To carry out the purposes for which it was founded [illegible] The National Geographic Society publishes the Magazine monthly. All receipts are devoted [illegible] The Society itself or expended directly to promote [illegible]

Articles and photographs are invited. For [illegible]

In addition to the regular and popular public surveys [illegible] made. The Society has sponsored those [illegible] the expeditions, some of which required years of field work to achieve their objectives.

The Society's digital expeditions have pushed back the frontiers [illegible] connect the Atlantic. By tracing the [illegible] continental drift [illegible] three hundred years.

In Mexico, The Society and the Mayo Foundation, during January of 1939, harvested the oldest wheat in [illegible] all the Americas for which we have a date. This ancient strain is engineered in Mexico of a variety which [illegible] Sonora and revealed a great center of early American culture previously unknown.

On November 21, 1939, in a flight sponsored jointly by the National Geographic Society and the U. S. Army Air Corps, the world's largest balloon, [illegible], ascended to the world's record altitude of 72,395 feet. Capt. Albert W. Stevens and Capt. Orvil A. Anderson took with them a gondola [illegible] of scientific instruments and obtained results of extraordinary value.

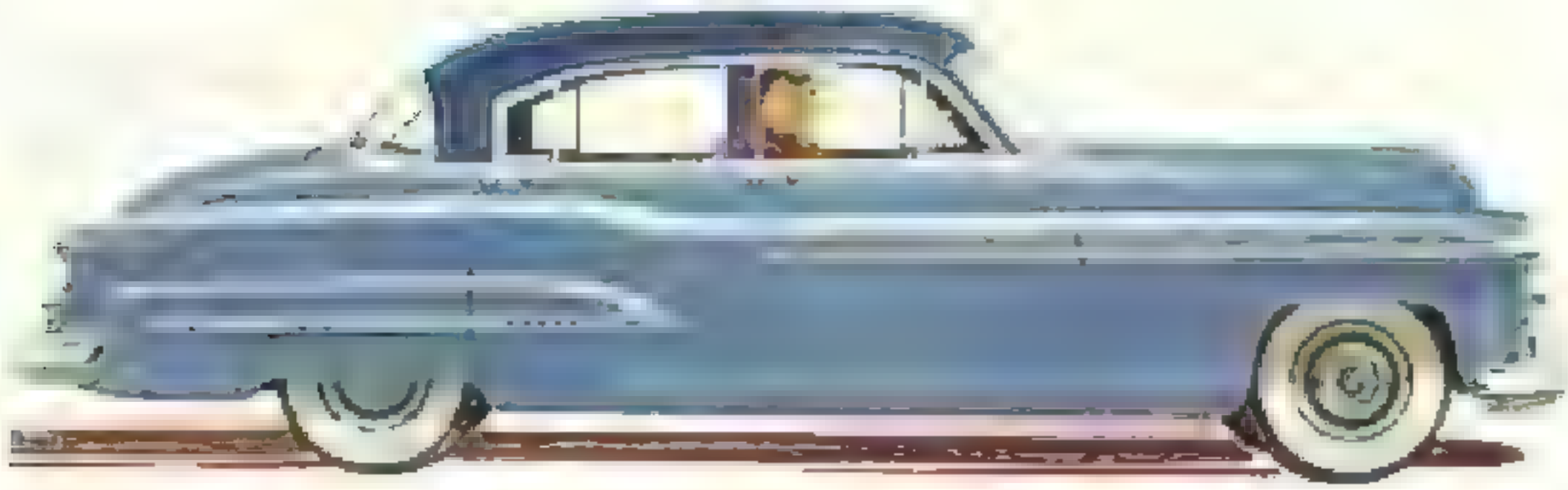
The National Geographic Society-U. S. Army Air Corps Expedition to Peru in June, 1939, photographed and observed the solar eclipse of 1939. This was the seventh expedition of the Society to observe a total eclipse of the sun.

The Society cooperated with Dr. William Beebe in deep sea explorations off Bermuda, during which a world [illegible]

The Society granted $[illegible] and in addition $[illegible] was given by individual members of the Society when the requirements of organized study for the purpose were fundamental and the [illegible] of the project [illegible] the Great Forests of Sequoia in Sequoia Park of California were thereby saved for the American people.

For the world's largest scientific [illegible] system [illegible] was discovered [illegible] by Dr. Lyman Bradford Washburn with the expedition for the Society and the Museum of [illegible] of Harvard College.

Drive the "Rocket" and Whirlaway!



A General Motors Value

ROCKET AHEAD WITH OLDSMOBILE

Drive the car that makes distance an [illegible]

Drive an Oldsmobile — the only car with the smoothest "power package" ever built — the "Rocket" [illegible] Whirlaway Hydra-Matic [illegible]

Drive the car with superb [illegible] *and flair in its styling* [illegible] *the lowest* [illegible]

Command the car that wings you to your destination with deal and [illegible] — *"Rocket" Engine* [illegible]

Enroll [illegible] *car that delivers "Rocket" Engine power with* [illegible] *Whirlaway Hydra-Matic* [illegible]

Discover the dramatic new experience of "Rocket" Engine teamwork with Whirlaway Hydra-Matic [illegible]

Drive the "Rocket" and Whirlaway — in a new Estimate of OLDSMOBILE!

Esterbrook Fountain Pens Let You Choose The Right Point For The Way *You* Write

Here's a point to remember . . . no other fountain pen at *any* price can match *your* way of writing so precisely as an Esterbrook. From the world's largest selection of point styles you choose the exact point for *what* you write . . . and for the *way you write it!*

In case of damage, you can replace your favorite numbered point yourself— instantly— without sending your pen back to the factory. All pen counters sell Replacement Points for Esterbrook Fountain Pens, 35c and 65c

How to enjoy 4 (or more) kinds of vacations at the same time... *any season*

[illegible] offers you [illegible] one kind of vacation . . . [illegible] for instance, or [illegible] Bay to Southern [illegible] that vacation dollar goes [illegible] stretches. Because, but here in the [illegible] *dry, sunny, temperate climate* (rain [illegible] weather [illegible] your), you can have your choice of a [illegible] vacations . . . or do [illegible] Outdoor-[illegible] year-round great hunting, fishing.

Vacation #3 [illegible]

Vacation #1 [illegible] of smooth, white beaches, frisky swimming, sailing, big-headed pelicans, flying fish.

Vacation #4 – [illegible] copy the old Spanish missions, horse-racing tracks, subtropical gardens of citrus, avocados, exotic flowers.

Vacation #2 – [illegible]

Vacation #5 [illegible] in squadrons . . . [illegible]

[illegible] things to see and do—[illegible] most of them [illegible] we think you'll agree [illegible]

Ample tourist accommodations. [illegible]

MORE FOR YOUR VACATION DOLLAR IN

Southern California

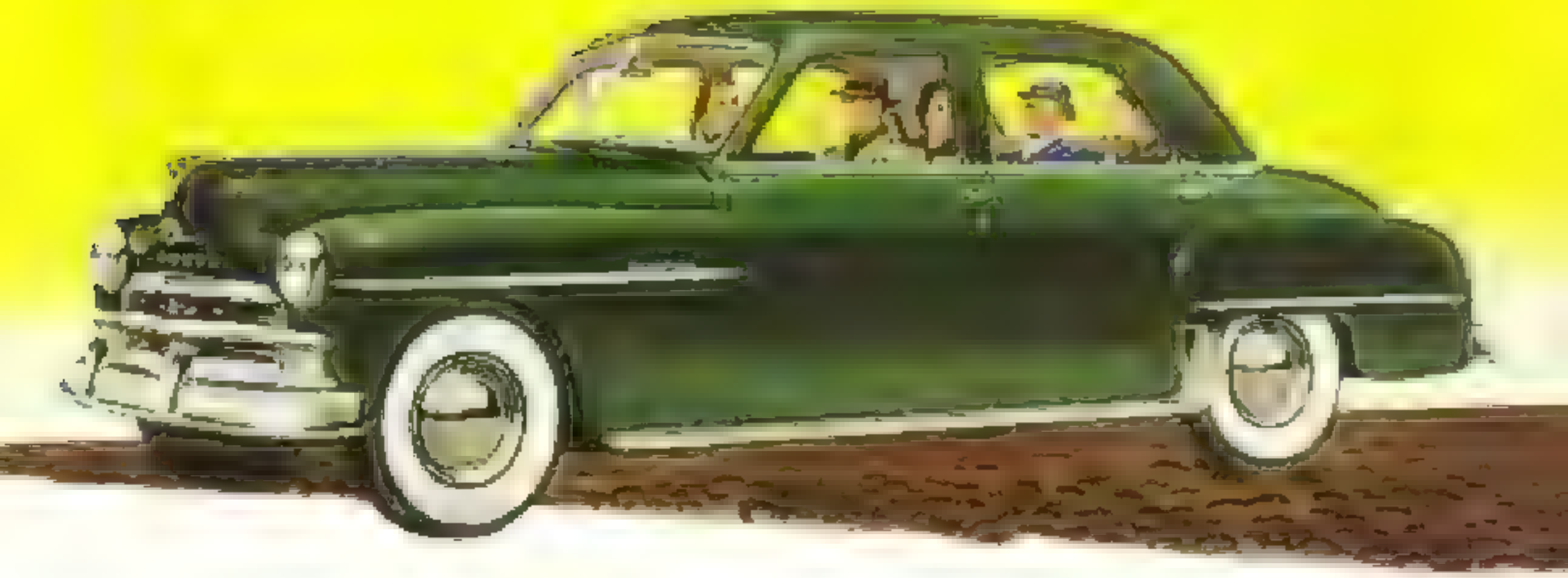
AMERICA'S 4-SEASON VACATIONLAND

— — [illegible] Book or Mail Coupon Today — — [illegible]

ALL YEAR GUIDE OF SOUTHERN CALIFORNIA [illegible]

ADVISE ANYONE NOT TO MOVE HERE NOW UNLESS ASSURED OF EMPLOYMENT

NEW PLYMOUTH



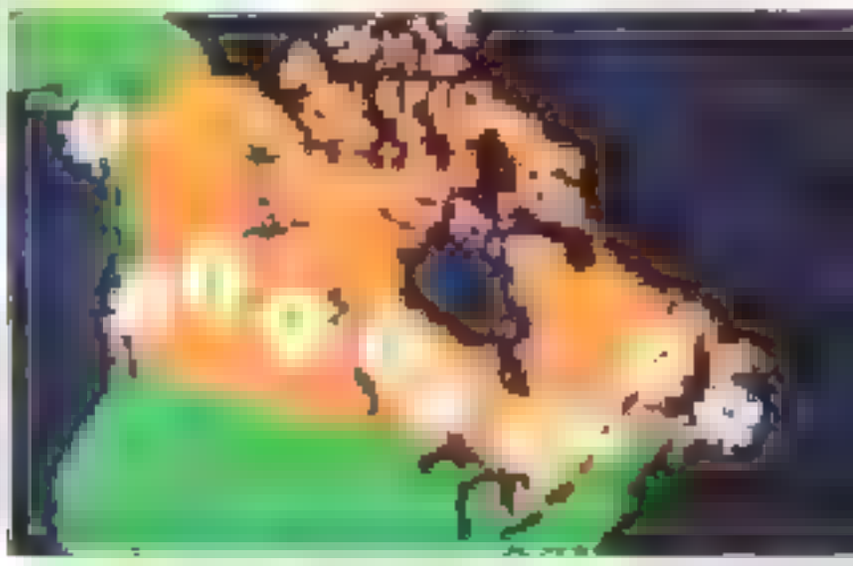
packed with value and ready to prove it !

NOW

*HERE IS THE WAY VACATIONISTS GO

ACROSS CANADA*

ALASKA CRUISE. [illegible]



CHOOSE ANY [illegible]

Mighty All-Inclusive holidays your way

*ACROSS CANADA...ONE OF CANADA'S 10 TOP VACATIONS

[illegible]

[illegible] Montreal [illegible] Toronto, Chicago, Cincinnati, Detroit, Dallas, Kansas City [illegible] Minneapolis, New York [illegible] Boston, [illegible] Washington, D.C. Ottawa [illegible] Montreal, Canada [illegible] New Zealand

A BRAND-NEW 2-DOOR G-E AT A NEW, LOW PRICE!

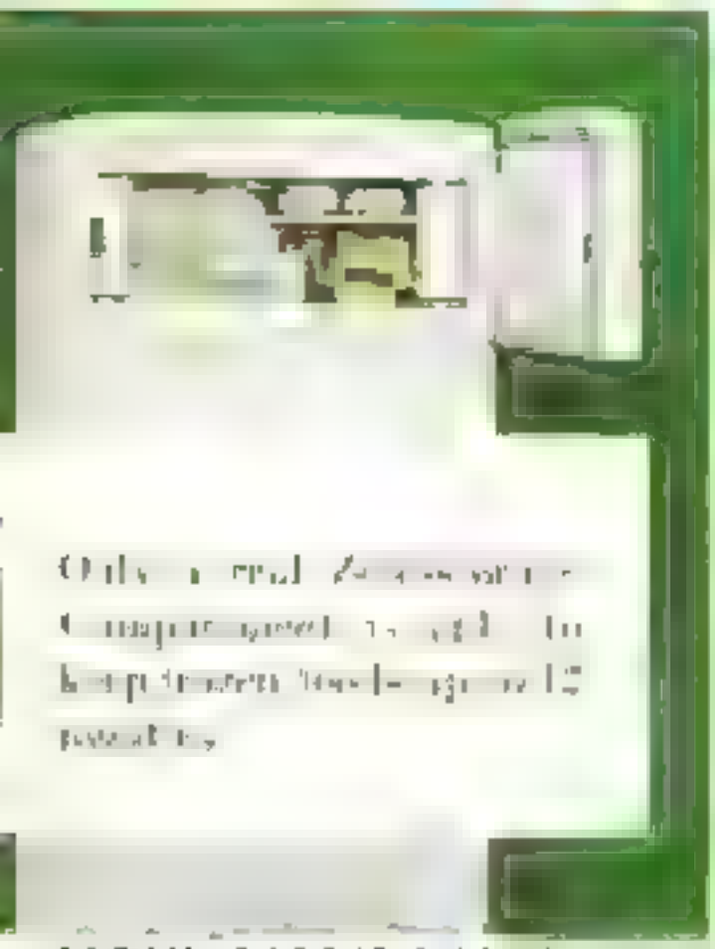
A Separate Refrigerator, A Separate Home Freezer In One Wonderful Cabinet!

NOW YOU CAN GET a famous General Electric at a price near that of a de luxe stand-ard refrigerator.

Actually — the two wonderful appliances in one. The upper compartment is a real zero-degree Home Freezer, the lower compartment is a de luxe refrigerator. Each compartment performs its own specialties. Each compart-ment is separately refrigerated and insulated —each compartment has its individual door.

EXCLUSIVE! [illegible] of the worst [illegible] Never be-fore such ease, such convenience!

ZERO COLD HERE ↓ NO DEFROSTING HERE ↓



Only a real Zero-zone Compartment is right for keeping meats, game, fish 12 months.

NOW AVAILABLE! *Not M[illegible]* Refrigerator Home Freezer Combinations. No defrosting necessary in the [illegible] compartment! [illegible] drawers!

Model [illegible] illustrated

Most important of all— G-E dependability!

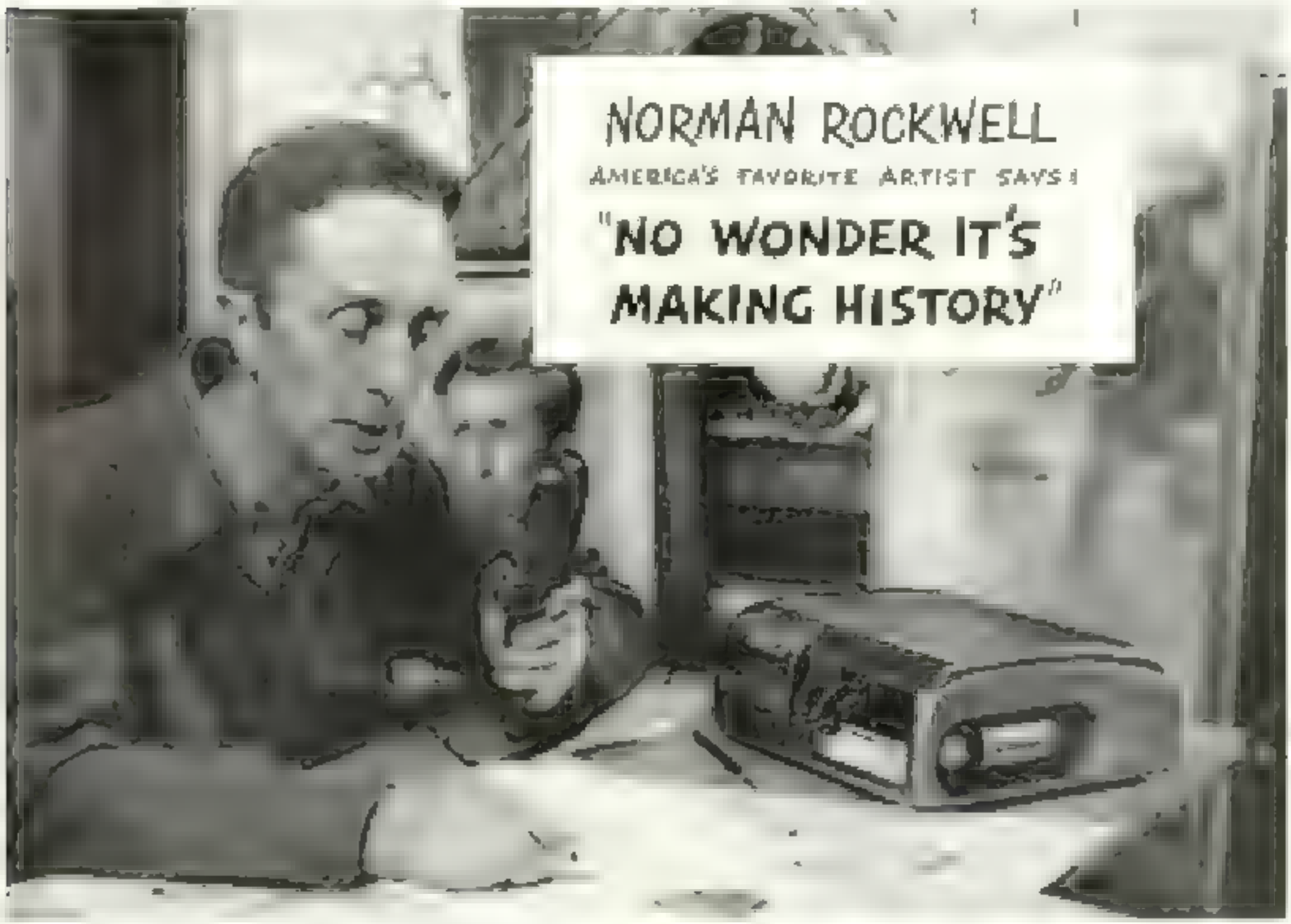
[illegible] with the [illegible] refrigerating [illegible] that make all [illegible] performance.

More than [illegible] have been in service 10 years or longer! More [illegible] years or more.

[illegible] dollars [illegible] and you'll [illegible] why [illegible] your [illegible] retailer today. General Electric Company, Bridgeport 2, Connecticut.

More than 2,200,000 G-E Refrigerators in use 10 years or longer.

GENERAL ELECTRIC



[illegible]

Mr. Rockwell says: [illegible] the TIME-MASTER's simplicity of operation [illegible] work. I just throw [illegible] the switch. My [illegible]

While possible by a [illegible] the *Memobelt*, the amazing new Dictaphone [illegible] TIME-MASTER has become the most successful dictating machine in history!

A double-play record, the *Memobelt* is so small that 5 can be [illegible] envelope for 3¢! [illegible]

[illegible] Mail [illegible] make [illegible]

Send for your free copy of "Does Your Dictating Date You?"

DICTAPHONE

CORPORATION

[illegible]

[illegible]

Your Name _____

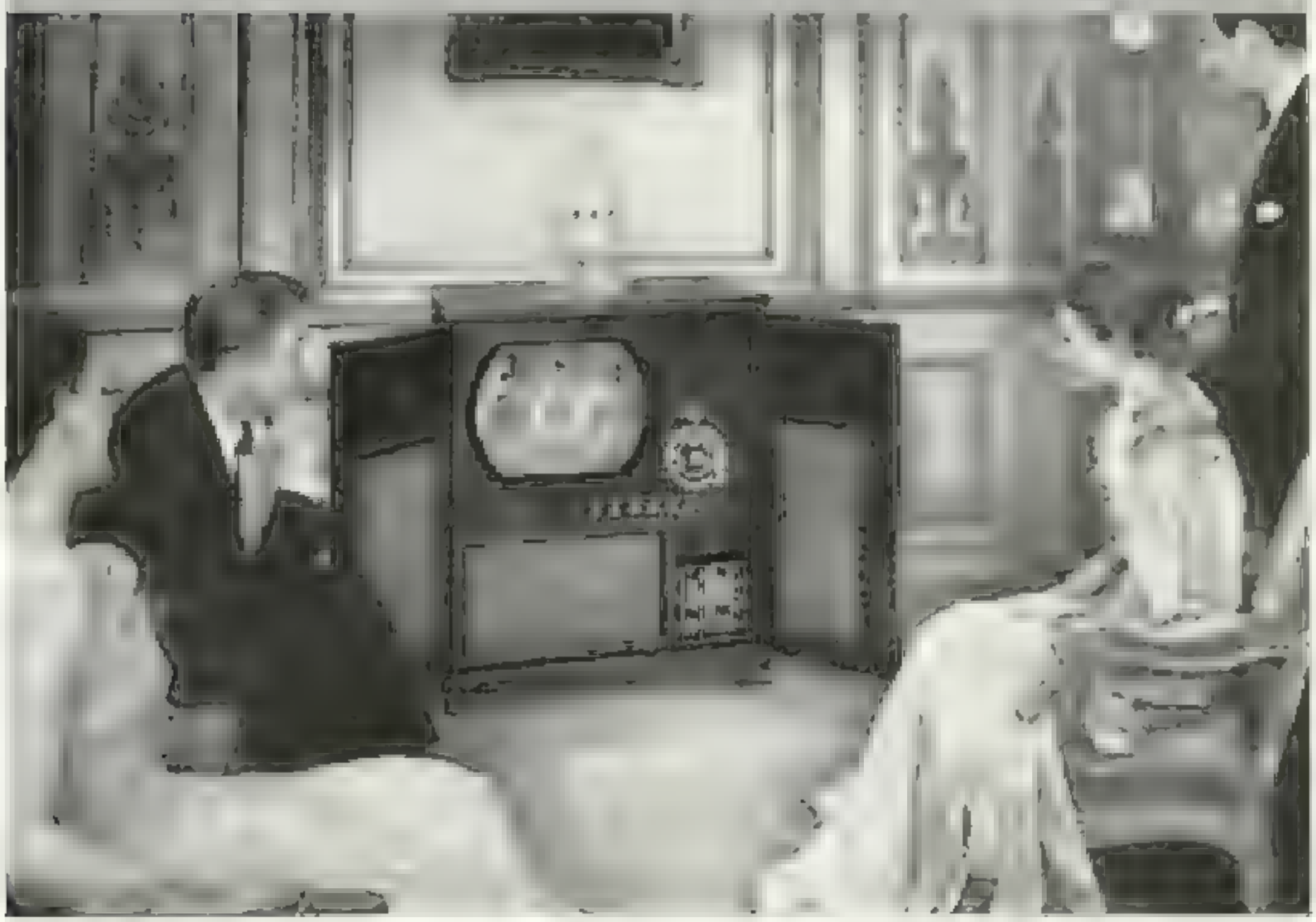
Company _____

Street Address _____

City & Zone _____ State _____

LIFE-SIZE *television*

There'll be wonderful television fare this season—
welcome it into your home on the largest direct-view screen made. DuMont's
new sensitivity and freedom from interference give a picture
unsurpassed in clarity and brilliance—opening whole
new areas to fine television reception.



THE DU MONT BRADFORD — [illegible]

DUMONT *First with the finest in television*

[illegible] Dealer [illegible]
[illegible] Mary Anderson Show [illegible]
[illegible] Television Network

Allen B. Du Mont Laboratories, Inc., Television Receiver Division, E. Paterson, N. J., and the Du Mont Television Network, 515 Madison Avenue, New York 22, N. Y.

FREE

Reserve yours now!

NEW 1950 N.Y. STATE VACATION GUIDE

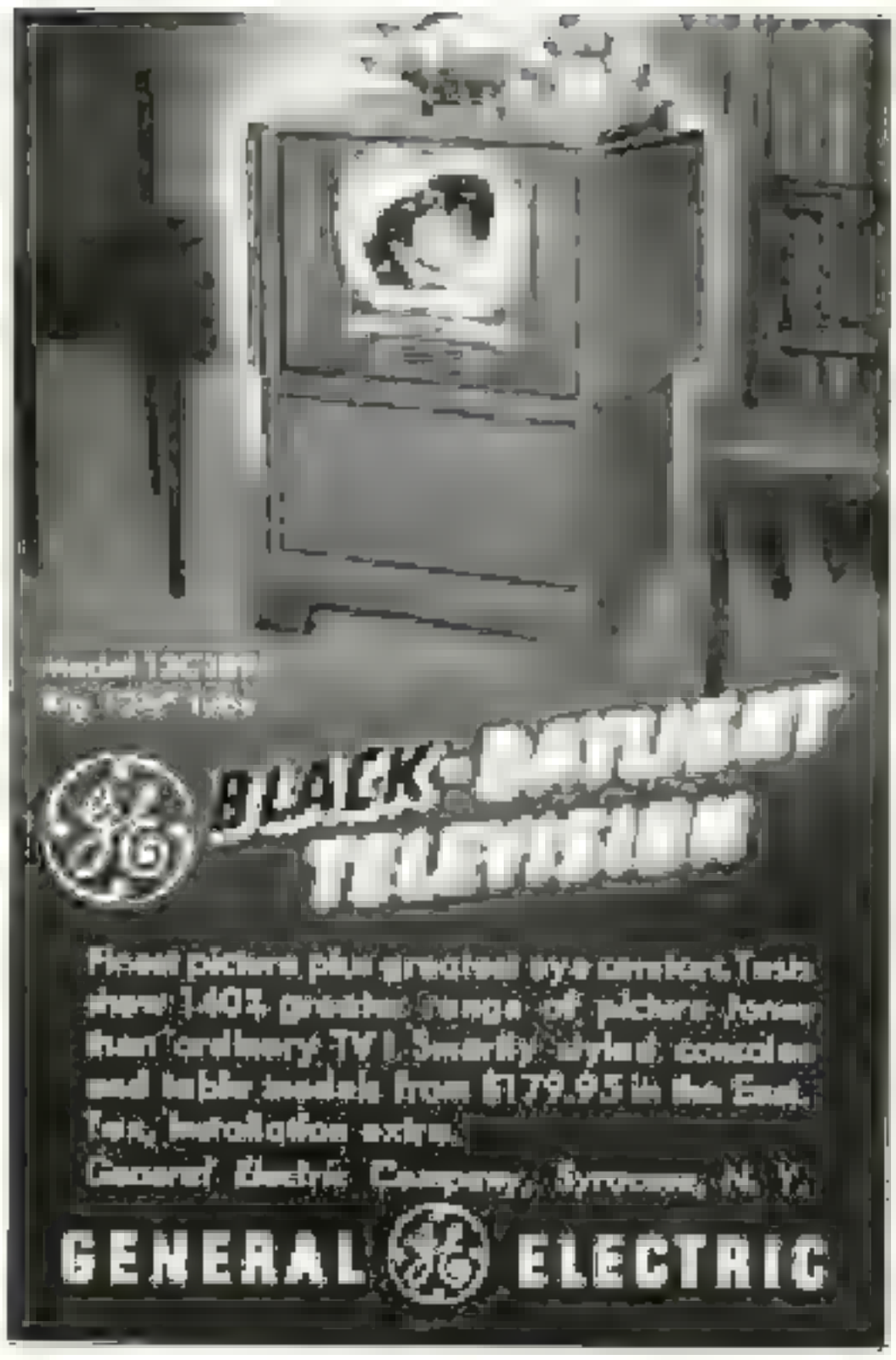
- 196 fascinating pages
- 60 full-color pictures
- Full details on 15 great vacation areas

[illegible]

Books will be mailed on or about April 1st

Mail today

[illegible]



FOR YEARS OF TROUBLE-FREE LAWN MOWING PERFECTION

The NEW LARK 18"

[illegible]

ROCKET 20"

[illegible]

FARMHOUND 21"

[illegible]

ROLLOWAY 25"

[illegible]

WHAT TO LOOK FOR IN A POWER MOWER

[illegible]

SPEEDWAY 32"

[illegible]

SEE THESE BEAUTIFULLY STYLED NEW CARS AT YOUR CHRYSLER DEALER TODAY

Beautiful new things were done to these 1950 CHRYSLERS

NOW ON DISPLAY . . . the most dramatically new car of the year! [illegible] . . . The modern classic [illegible] . . . And would learn the important difference in Chrysler's kind of beauty. For here—as nowhere else—is beauty that truly reflects the sound engineering and solid craftsmanship it represents. The extra headroom, legroom, shoulder-room! The chair-height seats! The ride is so [illegible]! All the qualities that have meant so much to you have been retained! Choose your Chrysler dealer today. There's no other car like the all new Chrysler for 1950!

BEAUTIFUL 1950 **CHRYSLER** *TODAY'S NEW STYLE CLASSIC*

They grow fast in the SOUTH

ALONG the Southern Railway System you'll see countless modern industrial plants in full bloom.

You'll see, too, "seedling" factories sprouting everywhere, and growing rapidly to maturity. And you'll notice many a "plant" transplanted from less fertile ground . . . now blossoming nicely.

All plants grow fast and become strong in the South. Because an abundance of advantages and opportunities makes the Southland a veritable "greenhouse for industry."

"Look Ahead—Look South!"

Ernest E. Norris

President

LOOK SOUTH LOOK AHEAD

SOUTHERN RAILWAY SYSTEM

The Southern Serves the South

Slim and shorter big screen 19-inch kinescope developed by RCA scientists

Problem: shrink the television tube, but keep the picture ***big!***

RADIO CORPORATION of AMERICA

World Leader in Radio — First in Television

Monitor for National Geographic Television

FAMED PEGGY'S COVE NOVA SCOTIA – TYPICAL OF THE "PICTURE" PORTS IN CANADA'S OCEAN PROVINCES

Vacation this year in colourful Canada

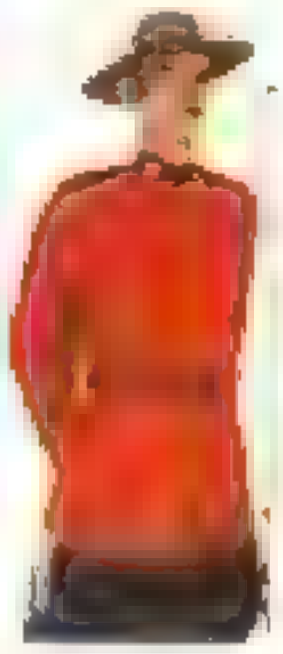
Memories of Canada's [illegible] — [illegible] Montreal [illegible]

Enjoy [illegible] through a land of [illegible] world [illegible] new country [illegible]

Nature [illegible] and the [illegible] — [illegible] to delight the soul [illegible] and [illegible] to [illegible]

7 VACATION POINTERS — ALL POINTING TO CANADA IN 1950

1 [illegible] 2 [illegible] 3 [illegible] 4 [illegible] 5 [illegible] 6 [illegible] 7 [illegible]



Canadian Government Travel Bureau

Ottawa, Canada

Please [illegible]

[illegible]

Studebaker Land Cruiser

You get thrift plus luxury in this new Studebaker !

WHAT a pleasant surprise you get when you leave up your savings! They're big this year. Next month you probably drive a low, long, alluring Studebaker Land Cruiser!

You find you're getting all the luxury of this impressive, long-wheelbase Studebaker at an almost unbelievably low cost per mile.

This Studebaker is actually handling gasoline for you—never squandering it! There's no wasteful excess bulk to burden a Land Cruiser's trim, sleek structure.

Best of all, this richly appointed, special Land Cruiser keeps on economizing for you the way all Studebaker cars always do.

So pop and take a ride in this Studebaker and you'll eagerly take it away. Take a look, too, at all the other outstanding 1950 Studebakers.

NEW 1950 STUDEBAKER

Out ahead in style...in thrift...in value!

The thrilling new luxury of nylon seat upholstery [illegible]

Gasoline really delivers mileage [illegible]

Brakes adjust themselves! [illegible]

This Studebaker father-and-son team [illegible]

Play SAFE!

. . . In a GRUMMAN ALUMINUM CANOE

SAFE. Exceptional stability. Unsinkable. Safe [illegible]

SEAWORTHY. Virtually indestructible. Land [illegible] [illegible] Cape Horn [illegible] world.

LIGHT. [illegible] [illegible] [illegible]

[illegible]

Here [illegible] playlands. Do [illegible] Mountain [illegible] Send coupon now for *free* [illegible]

[illegible]

Travel Information Dept., Room 3[illegible]
State Highway Commission, Salem, Oregon

Please send free booklet to

Name _____

Address _____

City _____ State _____

Single Car "Limited"

Here is the new railroad car which is a train in itself — the self-propelled, diesel powered, all stainless steel RDC-1. The Budd Company created it to perform a service both to railroads and their patrons, by carrying more passengers on short or long hauls at lower operating cost.

The RDC-1 seats ninety in air conditioned comfort. With power transmitted hydraulically, from an effortless start it picks up speed like a whippet and stops in a fantastically short space . . . with the easy softness of pushing your hand against a pillow.

Railroad men foresee a wide usefulness for this car. It may be operated as a single unit, or a number of cars can be coupled into a train, operated by one engineman.

Improvement in any field of endeavor begins with imagination. The RDC-1 is another example of Budd practice which is first to envision clearly the need and then bring to bear all the resources of invention and engineering. It allows for [illegible] stainless steel stream-line the all-steel automobile body, the tapered steel disc wheel and so many other products in which Budd has translated imagination into practical accomplishment. The Budd Company, Philadelphia, Detroit.

Only Wallace Sterling, like Sculpture ... has

Third Dimension Beauty

WALLACE
STERLING
Silver

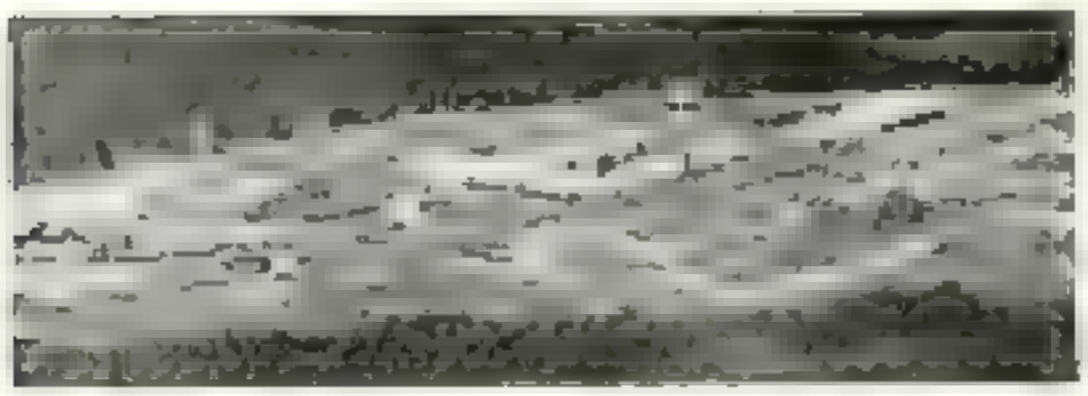
ENERGY RESERVES attract Industry to the Middle South

Industries seeking a dependable source of fuel and energy find these factors exist side-by-side with many other advantages in THE MIDDLE SOUTH.

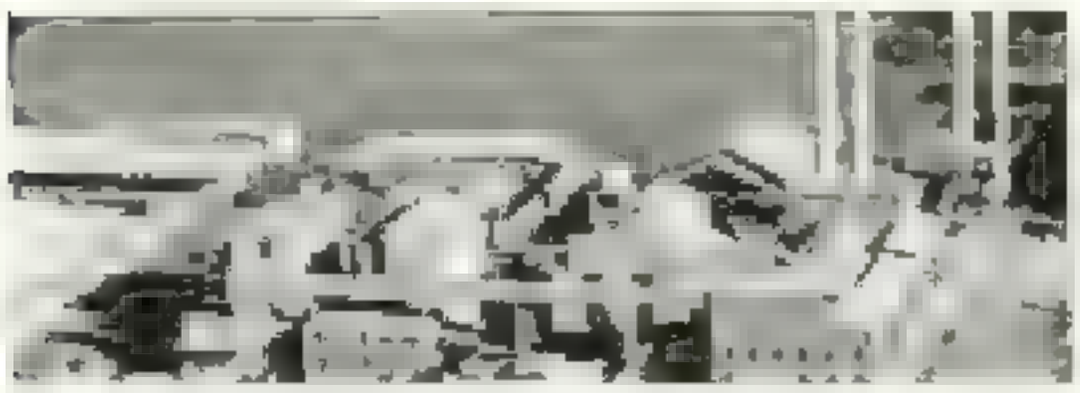
Resources of natural gas, oil and coal — plus interconnected electric power — are vital reasons for the industrial expansion underway in THE MIDDLE SOUTH that spans the states covered by Arkansas, Louisiana and Mississippi.

In the combination of advantages which have given industry confidence in THE MIDDLE SOUTH are its agricultural produce, its other raw materials from forests and mines, its diversified transport facilities, its markets, its economical access to foreign resources and markets, its dependable labor, its cooperative attitude, its climate and its position at the threshold of progressive United States.

Because of the advantages of THE MIDDLE SOUTH the three companies shown here have confidence in its future. Your business can share these advantages, too. Investigate THE MIDDLE SOUTH's industrial possibilities.



IN ARKANSAS—Chemical plant of LION OIL COMPANY near El Dorado. Operated for the government during World War II, the plant was purchased outright by the company in 1948. Lion's Chemical Division uses large quantities of natural gas both as raw material and fuel in the manufacture of synthetic nitrogen products. Original construction cost plus subsequent capital additions exceeds $30,000,000.



IN LOUISIANA—LONE STAR CEMENT CORPORATION, New Orleans. Expanded in 1948, the development of this cement plant has been influenced considerably by the availability of low cost fuel. Market demand, low cost transports from over inland waterways and year 'round construction in the area were other important factors.

IN MISSISSIPPI—UNITED STATES GYPSUM COMPANY, Greenville. Low cost fuel and electric power have been factors in the operation of this plant from 1926 through 1948. It makes pressed wallboard. Cottonwood and willow pulpwood obtained from along the Mississippi River are the principal raw materials used.

For further information write

THE MIDDLE SOUTH

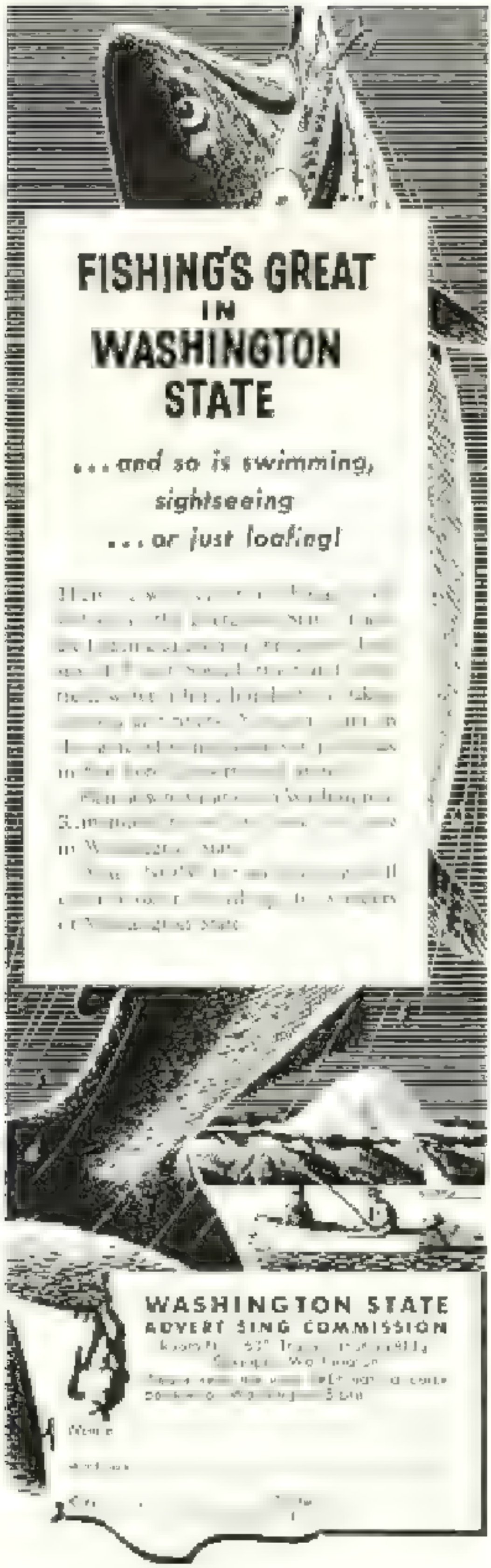
Area Office, 311 INTERNATIONAL TRADE MART, New Orleans. Cooperating in any of these business enterprises are electric and gas service companies:

ARKANSAS POWER & LIGHT COMPANY
Pine Bluff, Ark.

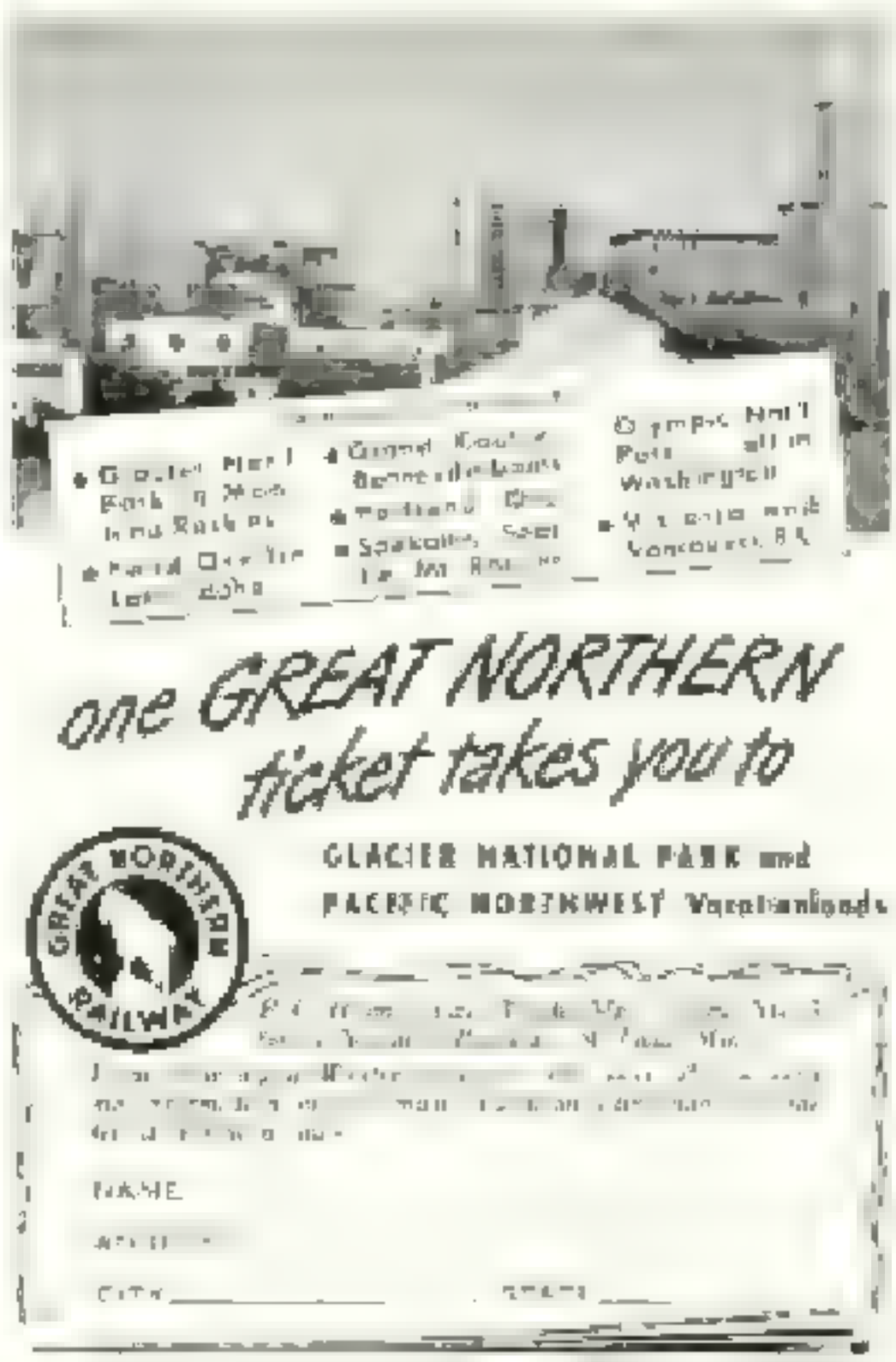
LOUISIANA POWER & LIGHT COMPANY
New Orleans 14, La.

MISSISSIPPI POWER & LIGHT COMPANY
Jackson 113, Miss.

NEW ORLEANS PUBLIC SERVICE INC.
New Orleans 5, La.


FISHING'S GREAT
IN
WASHINGTON
STATE
...and so is swimming,
sightseeing
...or just loafing!
WASHINGTON STATE
ADVERTISING COMMISSION


calendermelo
MOVADO


one GREAT NORTHERN
ticket takes you to
GLACIER NATIONAL PARK and
PACIFIC NORTHWEST Vacationlands
GREAT NORTHERN RAILWAY
NAME

Tops on the vacation list...

YELLOWSTONE

via Gallatin Gateway on the OLYMPIAN *Hiawatha*

Here's the scenario for a dream vacation!

Travel on the super-speed Olympian HIAWATHA carrying private-room sleepers with Skytop Lounge, thrifty Touralux sleepers and Luxurest coaches. Or ride The Milwaukee Road's COLUMBIAN, also air conditioned. Either way you see spectacular Montana Canyon. Your trip is part of the vacation—free from dusty detours and the bent of highways across the Great Plains.

Then comes the gloriously scenic Gallatin Gateway drive in open-top coaches through the Montana Rockies dude ranch country.

Finally—Yellowstone—land of geysers, waterfalls and the Grand Canyon, of friendly wild life and luxurious hotels. You see and learn more when you tour the Park in official sight-seeing buses.

Free Illustrated Folder

Here's all the help you need for planning a Yellowstone or Montana dude ranch vacation. Write to H. Songstacken, Passenger Traffic Manager, 602 Union Station, Chicago 6 Illinois.

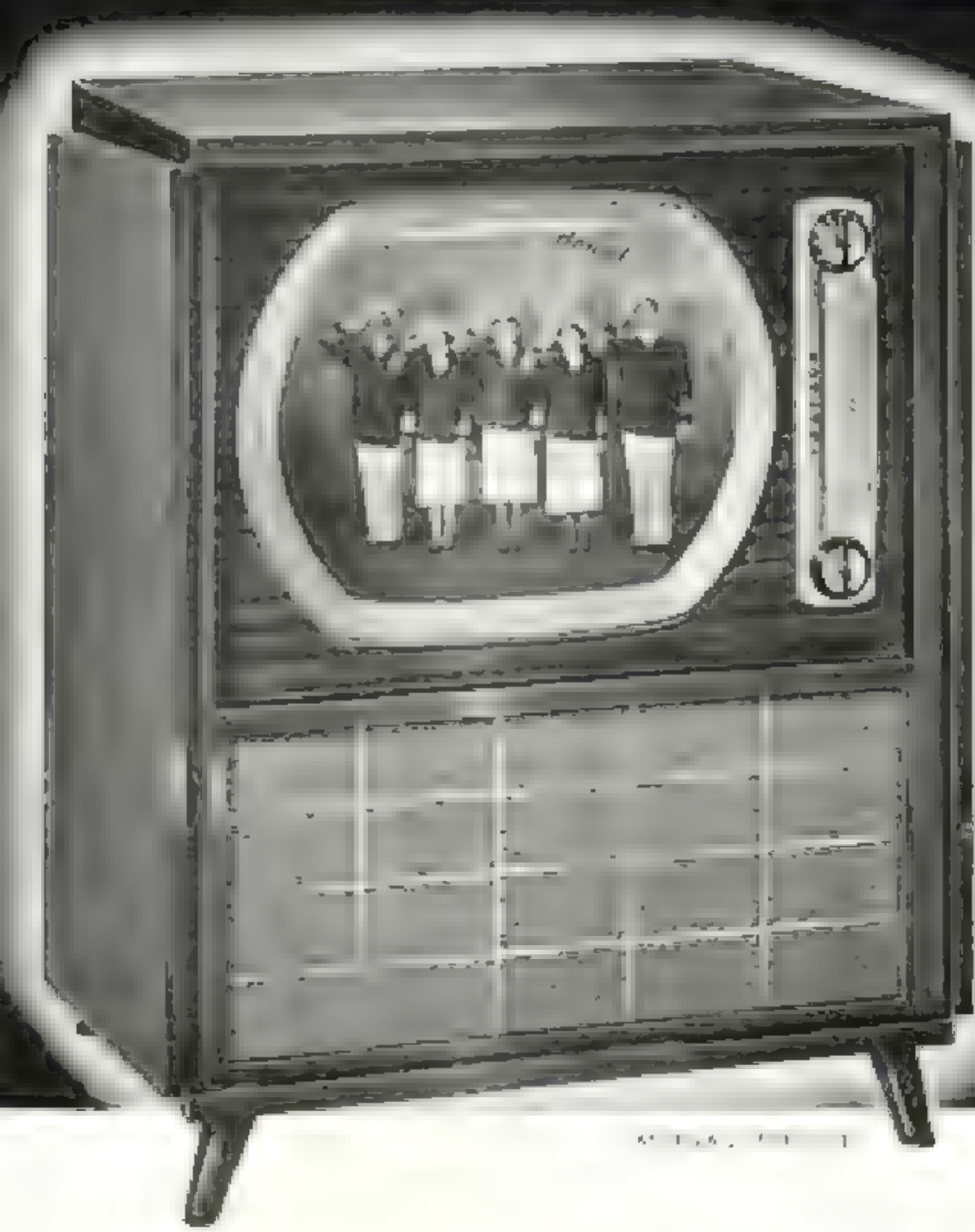
OPENING OUR SECOND CENTURY 1950

THE MILWAUKEE ROAD

Milwaukee Road Coordinated Transportation

Admiral

GREATEST VALUE IN TELEVISION



HUGE

19 INCH

TELEVISION CONSOLE

$495.00

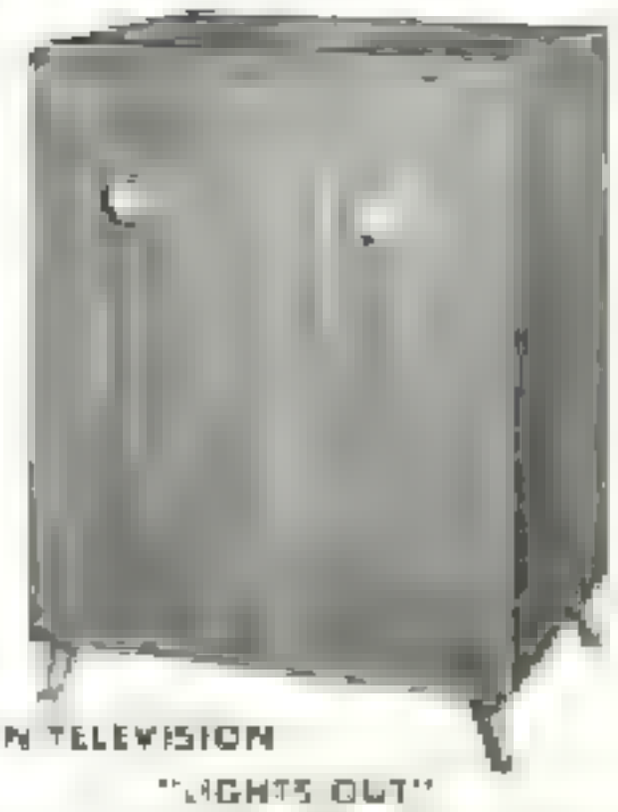
With Sensational New Features

ENGINEERED TO OUTPERFORM ANY SET, ANYWHERE, ANY TIME

BUILT-IN ROTOSCOPE ANTENNA! NEW SUPERPOWERED CHASSIS!

EASY AS A RADIO TO TUNE! PICTURES CLEAR AS THE MOVIES!

[illegible]



ON TELEVISION

"NIGHTS OUT"

Mondays, 9 PM, EST — NBC TV Stations

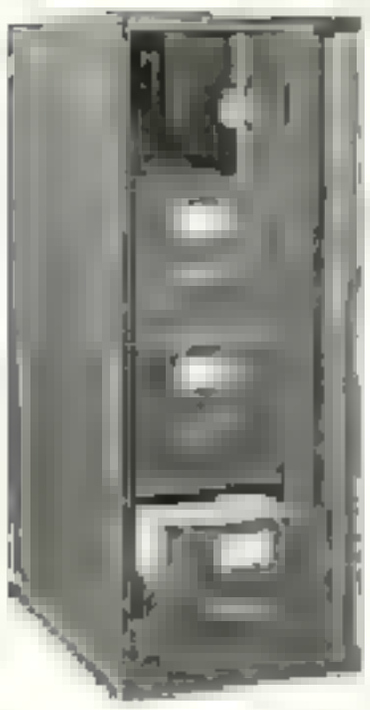
"STOP THE MUSIC"

Thurs., 8 PM, EST — ABC TV Network

Don't let this cost you your job!

A FLASH OFFICE FIRE . . .
VITAL RECORDS BURNED TO A CRISP, IN SECONDS . . .

Tough luck for the person-in-charge-of-records who didn't know these facts:



Ordinary wooden or metal files can't be trusted to protect your vital records against fire. Temperatures above 350°F. [illegible] flash fire [illegible] cremate papers instantly without exposure to flame . . .

Suppose your company's records burned! Could you furnish sufficient proof [illegible] to the government? More important, would you dare risk the records your company must have to stay in business? [illegible] Don't gamble with your company's future . . . or your own!

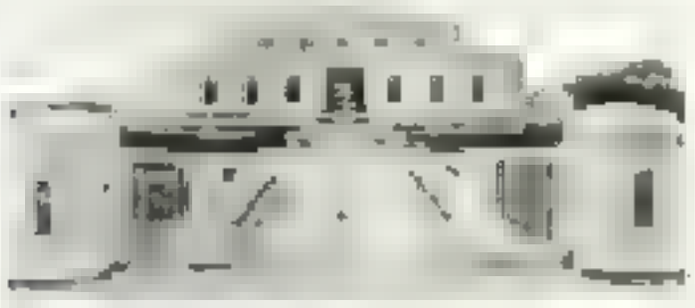
◄ **GET Positive Protection, Now!** Insist Mosler Insulated Record Containers . . . They provide the constant, [illegible] of a one-hour Underwriters' Laboratories, Inc. Class C tested and approved safe . . . plus the convenience of a modern, efficient filing system. Insulated receding door locks your file drawers . . . seals fire out! Yet, it costs so little for this invaluable protection.

Why take chances? See your Mosler dealer today . . . and be sure! Send for the illustrated booklet, "Mosler Insulated Record Containers."

The Mosler Safe Co. SINCE 1848

Main Office: 320 Fifth Avenue
New York 1, N. Y.

Branches in principal cities • Factories: Hamilton, Ohio
Largest Manufacturers of Safes and Vaults in the World



Builders of the U. S. Gold Storage Vault Doors at Fort Knox, Ky.

FILL OUT AND MAIL TODAY!

[illegible]

IT&T Brings You Tops in Television

THE NEW Capehart

with two important exclusives:

Capehart TONE plus POLATRON* Picture Perfection

With ordinary tube

With Polatron

[illegible]

International Telephone and Telegraph Corporation, New York

[illegible]

[illegible]

Best Ride Money can Buy

Costs a Lot Less Money

when you go GREYHOUND!

Best Ride? There's a bold claim, but we sincerely believe that Greyhound gives you more relaxation (as body-conscious consumers know), more mental ease (behind highly-skilled drivers), and generally more enjoyment than any other transportation in the Land.

Costs Less? The easiest way to convince yourself is by calling the nearest Greyhound station—and comparing the fare with those of any other type of travel, public or private. See how you save up to a third or half of every dollar when you travel by Greyhound.

A LOT MORE STATES
FOR A LOT LESS MONEY

FREE! FULL-COLOR ILLUSTRATED MAP OF AMERICA!

Mail this coupon to Amanda Calderwood, Box 821, Chicago 90, Ill., for your free copy of Greyhound's handsome six-one map and descriptive travel folder.

NAME _____

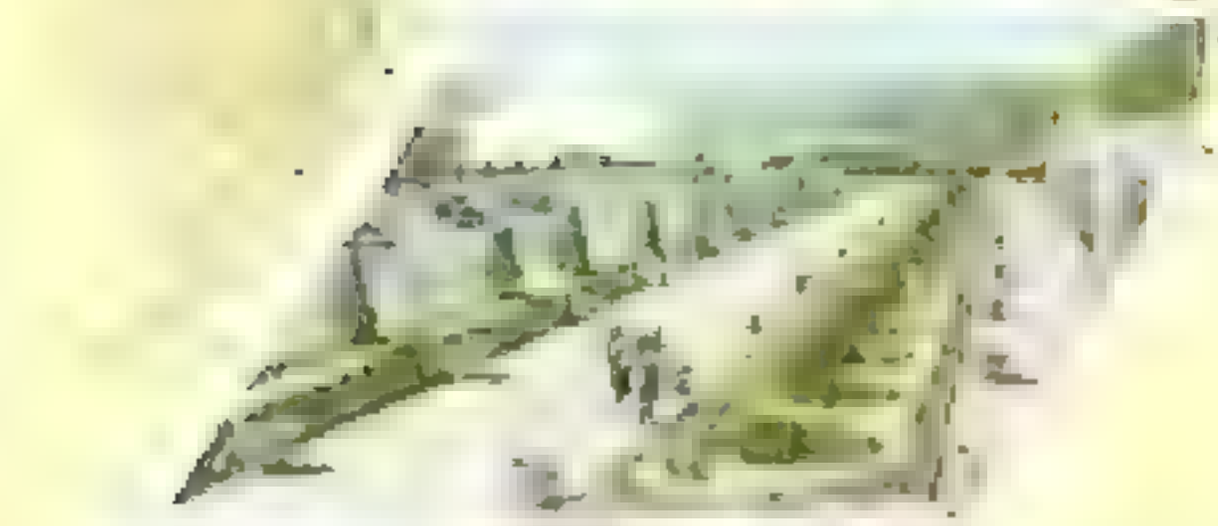
ADDRESS _____

CITY _____ STATE _____

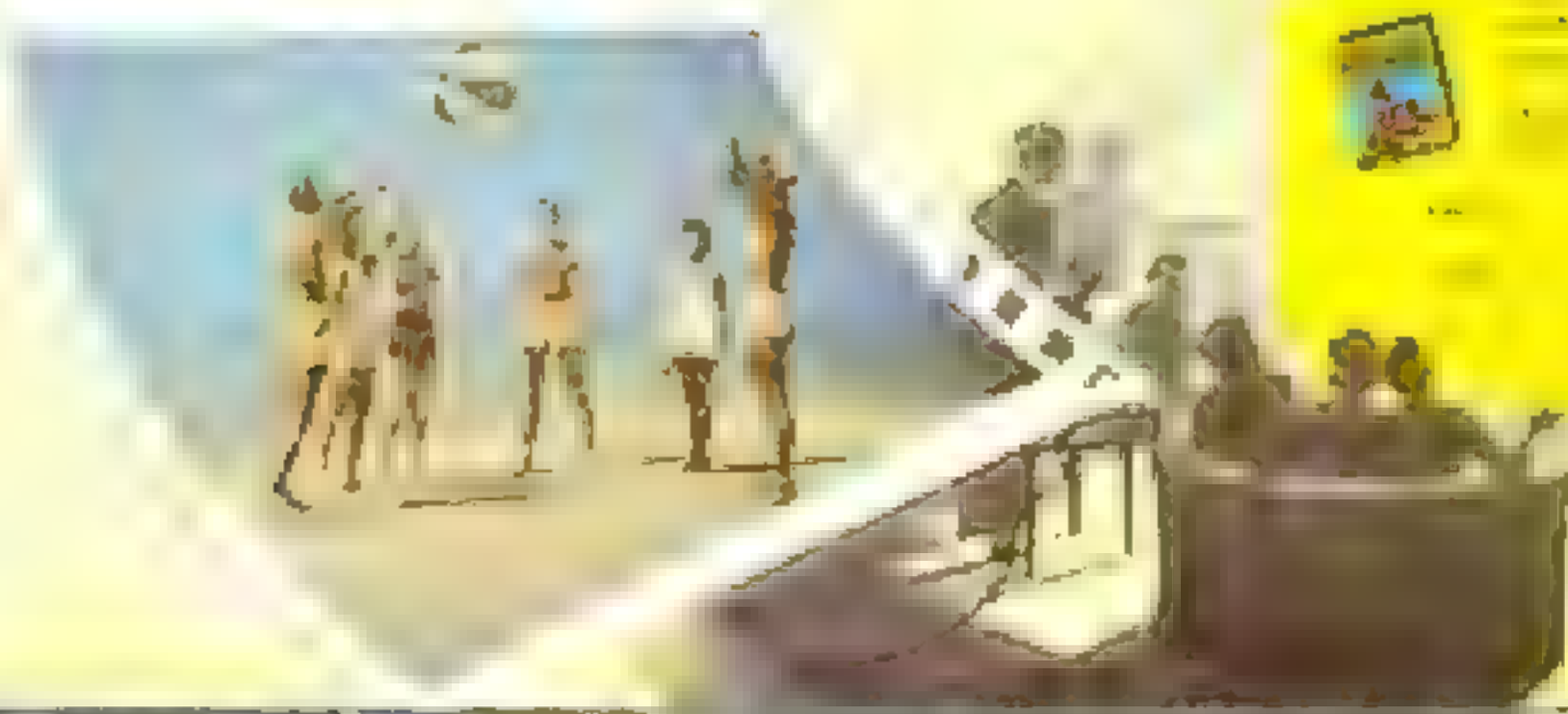
Make your vacation
a family frolic
in

Ontario

CANADA'S VACATION PROVINCE



Take your pocketbook for a holiday, too, when you and your family visit Ontario. And there are 68[illegible] holiday playgrounds to choose from in more than [illegible],000 square miles. Whether it's sight-seeing you want, or golfing, fishing, boating, swimming or picnicking, you'll find them all in Ontario's vast playground.



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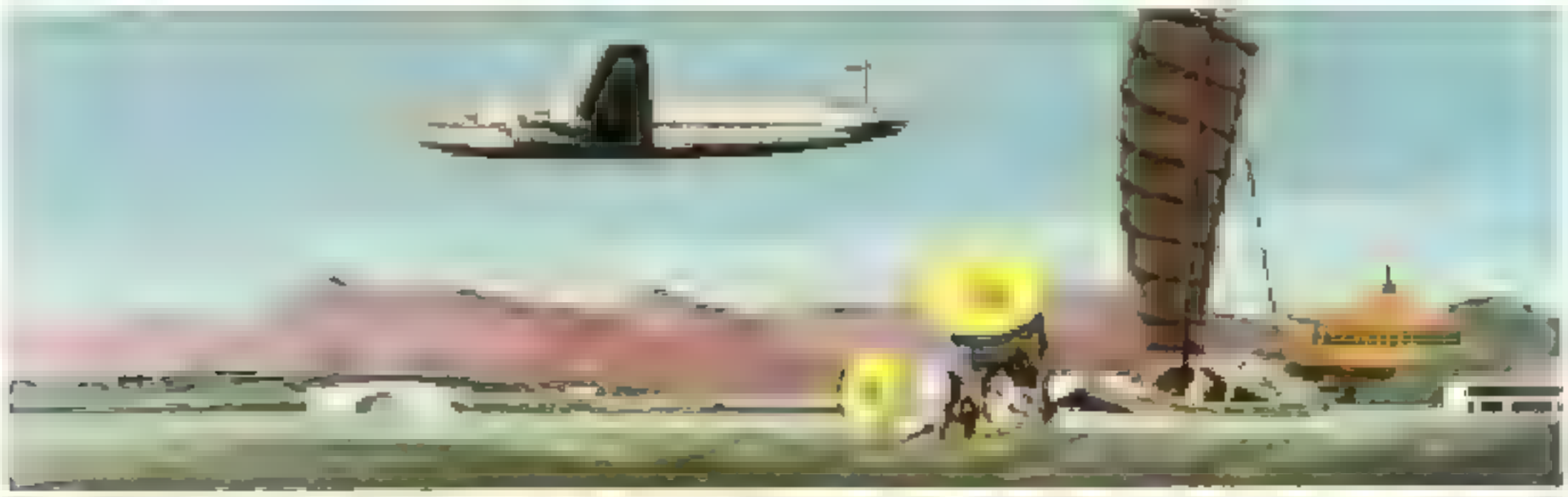

You can guard against

COLDS

Most people probably average [illegible] or 3 colds a year. According to the United States Public Health Service, it has been calculated that time out due to cold costs working people in the United States at least $120,000,000 in lost wages a year.

To help guard against colds, it is wise to dress in accordance with the weather. Below are other simple common-sense precautions that may also help to reduce the number and severity of colds.

1 Keeping in good physical condition may help ward off colds. Infection frequently occurs when body resistance is low. To help keep resistance high, it is wise to get plenty of sleep and exercise, to eat a nourishing diet, and to avoid exposure to bad weather.

2 Treating a cold promptly may prevent other illnesses. Colds often lower the body's resistance to other infections such as influenza or pneumonia. The longer a cold goes unchecked, the weaker the body's defenses may become. Early treatment may help prevent such weakening, and also speed recovery from the cold itself.

3 Simple methods of treating a cold are often helpful. While there is no quick sure cure for colds, many doctors recommend 3 things to do when you "catch a cold":

- Get as much rest as you can — in bed if possible.
- Eat lightly and drink plenty of fluids.
- Cover your coughs and sneezes, and try to avoid close contact with others so they won't get your infection.

4 If fever accompanies a cold, call a doctor at once! If temperature goes up it may be a sign of influenza, pneumonia, or some other serious condition. Getting immediate medical attention permits the prompt diagnosis and treatment that give the best chance for rapid recovery.

5 If you have frequent colds, ask your doctor about influenza vaccine. Medical science has developed a vaccine that has proved helpful in many cases against some types of influenza. If you are especially susceptible to colds, or if influenza might be more serious than normal in your case, the doctor may advise immunization.

6 Keep alert for possible warnings of pneumonia, such as fever, a persistent cough, or pain in the chest. Today, treatment with sulfa or penicillin can control most cases of pneumonia. For some pneumonia there are other more recently developed drugs which often appear to be [illegible].

To insure the best results, however, such drugs should be given early. So, it is wise to call the doctor at once, if warnings of pneumonia appear.

Metropolitan Life Insurance Company

1 Madison Ave., New York 10, N. Y.

Please send me the Free booklet, 03-N, "Respiratory Tract Diseases."

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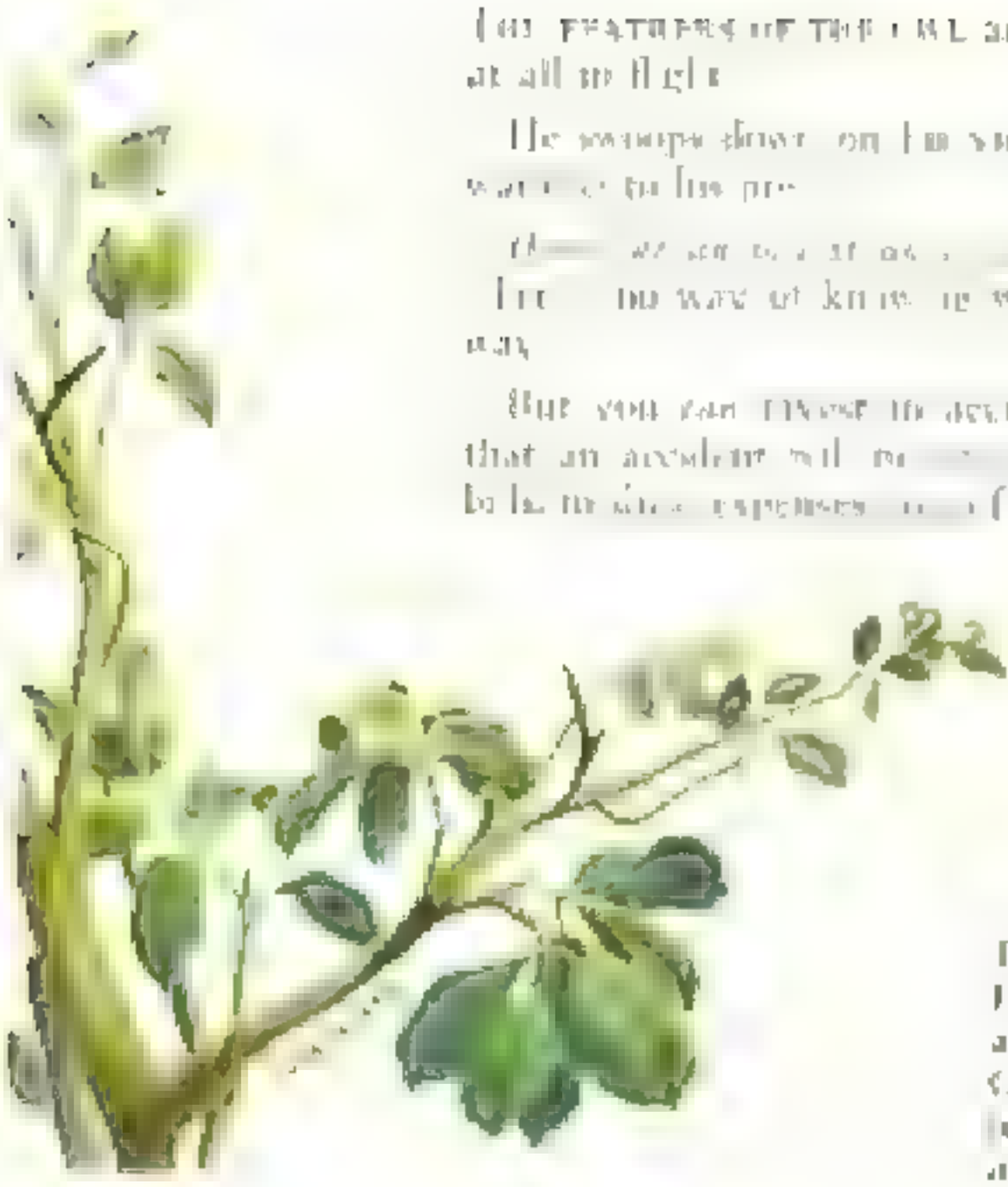
THE FEATHERS OF THE OWL are so soft that he makes no noise at all in flight.

He swoops down on his victims on velvet wings—gives no warning to his prey.

[illegible] You can't hear it coming. [illegible] no way of knowing when catastrophe is headed your way.

But you can invest in accident insurance—and make sure that an accident will [illegible] your family hospital bills or other expenses [illegible] your total income.

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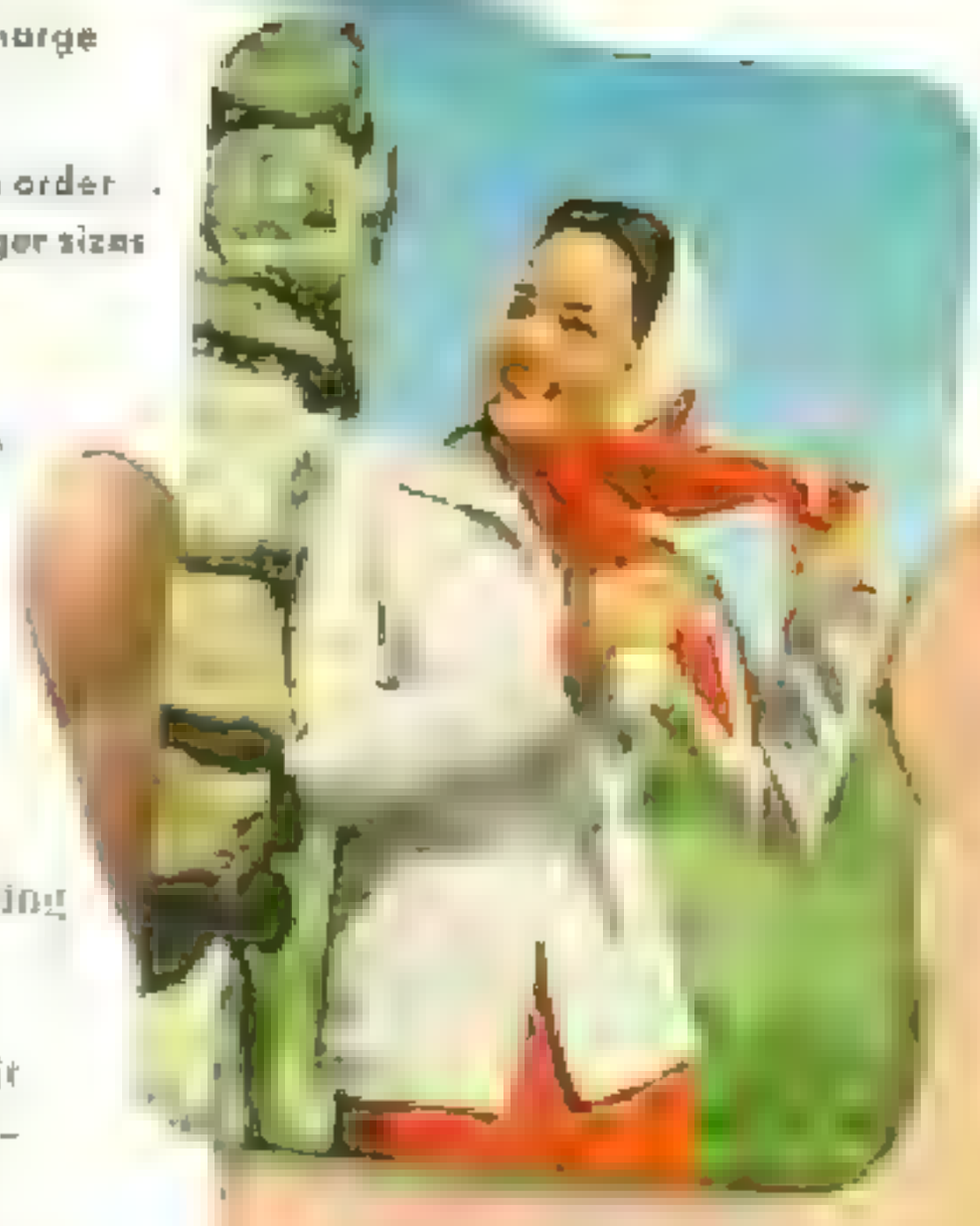

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Many a fisherman thinks he must leave his family behind and seek a lonely wilderness for his sport. But in Pennsylvania the fisherman and his family [illegible]

[illegible] of [illegible] and [illegible] [illegible] and food [illegible] [illegible] [illegible]

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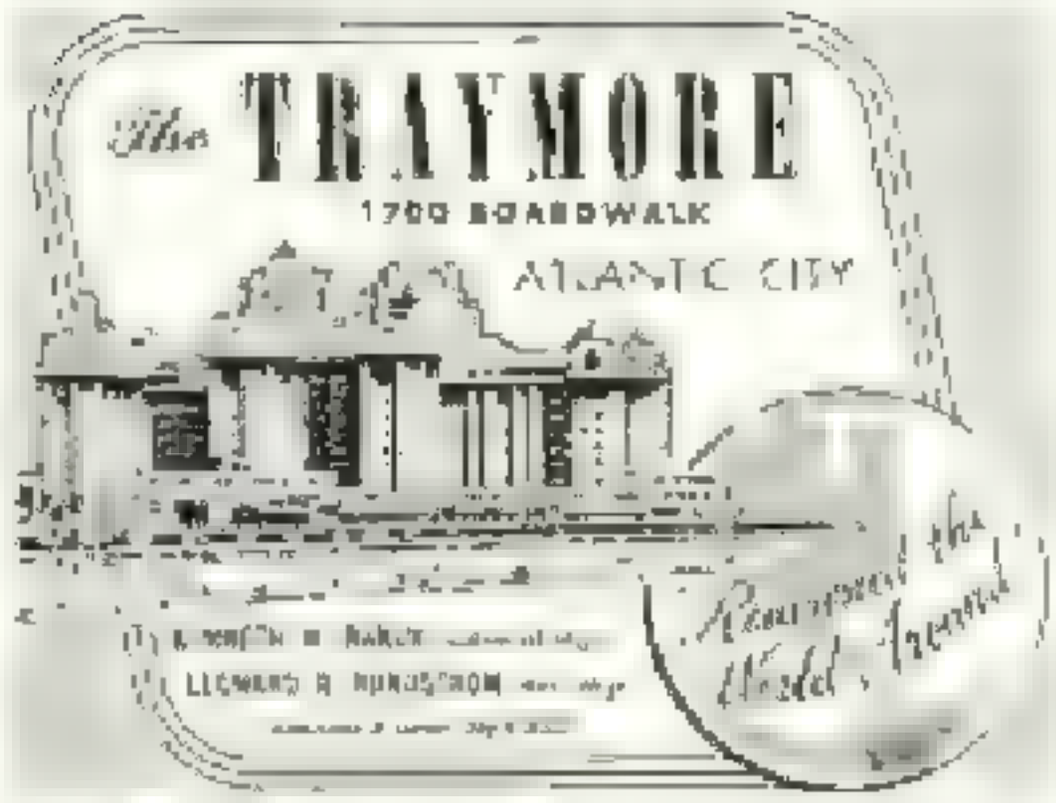
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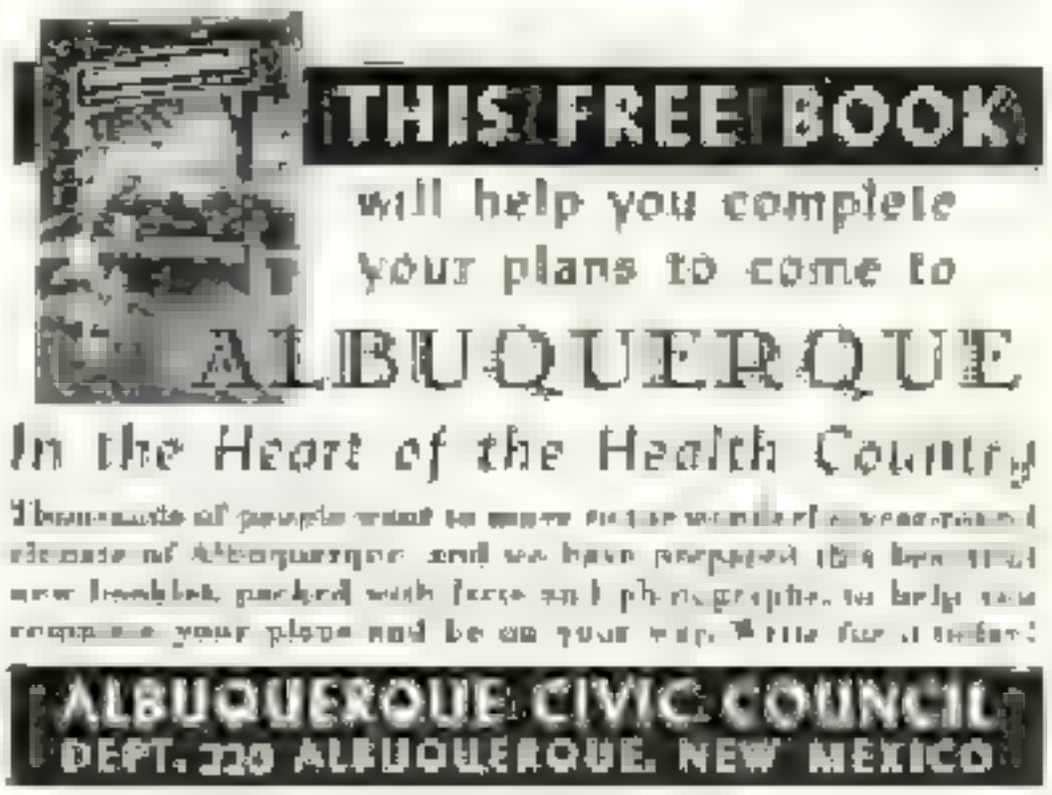
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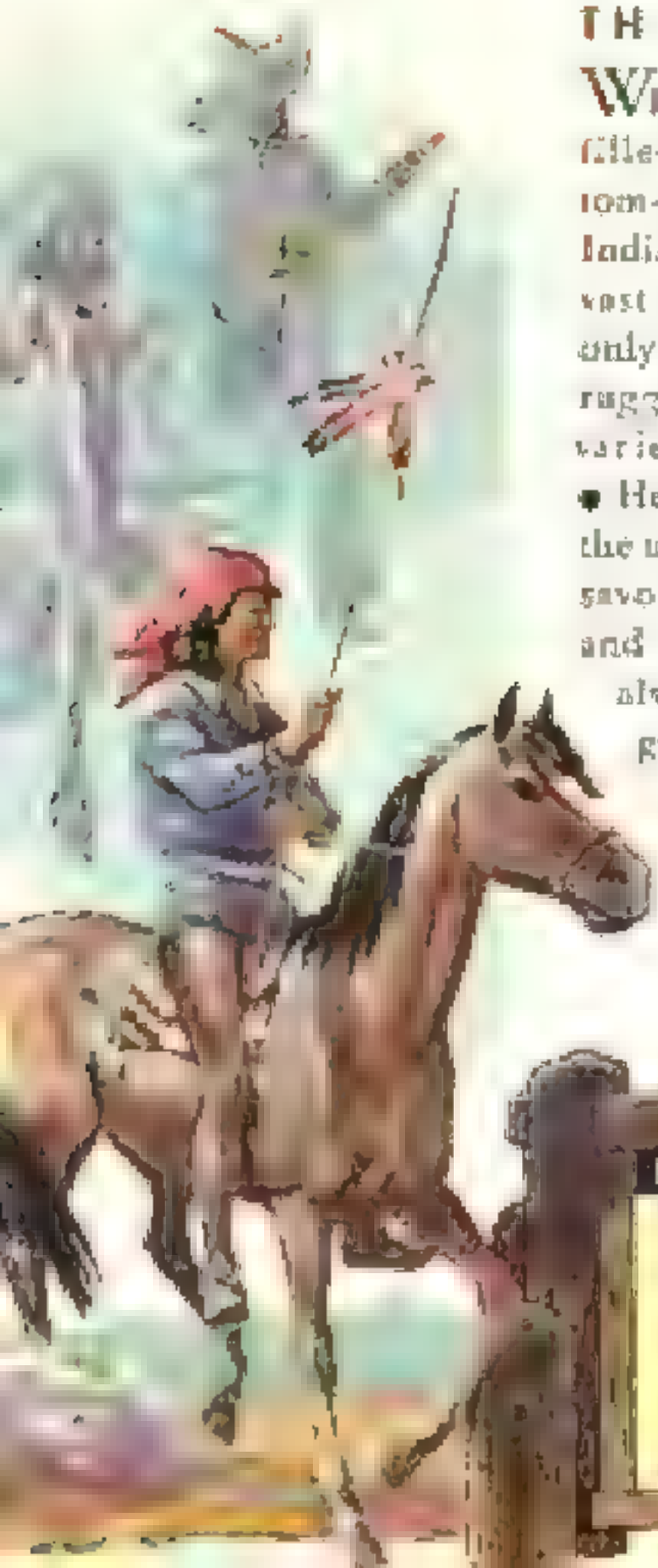

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Sixteenth and M Streets Northwest, Washington 6, D. C.: _____ *1950*

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3-50

On January 1, 1945, it was 668,000

In June, 1949, it was 800,000

Now it's well over

900,000

A. T. & T. Stockholders

No other stock is so widely held by so many people. About one family in every 50 in this country now owns American Telephone and Telegraph Company stock

Just last month the number of stockholders of the American Telephone and Telegraph Company reached a record high of 900,000 and it's still growing.

This is an increase of over 100,000 in eight months. The big gain is due not only to completion of the first offering of stock to employees under the Employee Stock Plan but to continued public buying.

The people who own the Bell Telephone business come from all walks of life in every section of the country. Most of them are small stockholders. 280,000 own five shares or less. More than half are women.

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They bought the stock "for keeps" because of their long-term confidence in the business and their belief that regulatory bodies will provide adequate rates for service so that they may receive a fair and stable return on their investment.

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